

5. REVISION OF THE GENERA AND SPECIES OF MUSTELIDÆ
CONTAINED IN THE BRITISH MUSEUM. BY DR. JOHN ED-
WARD GRAY, F.R.S., F.L.S.

(Plate VII.)

The *Mustelidæ* are carnivorous Mammalia, with normal dentition, having a single tubercular grinder on each side of each jaw.

In my paper describing some little-known Mammalia, in the first volume of Charlesworth's 'Magazine of Natural History,' p. 579, published in 1837, I used the forms and number of the pads on the feet of *Mephitis* to divide it into three genera, and also showed the importance of observing the size of the bald parts of the soles of the feet in distinguishing the species of Otters; and in the 'Proceedings of the Zoological Society' for 1864 I have used the excellent character which the form of the bald part of the sole affords for the separation of the genera of *Viverridæ*.

The only naturalist who seems to have followed up the subject is Mr. Hodgson, who, in his paper "On the Tibetan Badger" in the 'Journal of the Asiatic Society of Bengal' for 1847, has given, in t. 31, figures of the under part of the feet, showing the form and disposition of the pads, of eight species of Indian *Viverridæ*, *Mustelidæ*, and *Ursidæ*.

Synopsis of the Genera.

Section I. ACANTHOPODA. *The feet rounded; the toes short, curved, more or less united by a web, the last joint bent up; the claws short, compressed, acute, retractile.*

Tribe 1. MUSTELINA. Head oblong. Toes slightly webbed. Tail cylindrical. Terrestrial.

A. Digitigrade. *Soles of the hind feet hairy, with four bald pads in front. Body elongate; anal glands developed. Tail slender; tubercular grinder short, transverse.*

* *Teeth 38.*

1. MARTES. False grinders $\frac{3}{4}$. Head elongate. Feet very hairy; space between the pads hairy, often covering them from sight.

** *Teeth 34.*

2. PUTORIUS. False grinders $\frac{2}{3}$. Head short, ovate. Feet and space between the pads very hairy. Body stout; underside blackish.

3. MUSTELA. False grinders $\frac{2}{3}$. Head elongate, narrow. Feet and space between the pads very hairy. Body slender; underside yellow or white.



J. Wolf del. et lith.

ENHYDRIS LUTRIS.

M & N Harhart, imp.



4. VISON. False grinders $2/3$. Head elongate, narrow. Feet slightly hairy; pads exposed. Body rather slender; underside same colour as upper.
5. GYMNOPIUS. False grinders $2/3$. Head elongate, narrow. Feet rather naked, bald beneath, between, and rather behind the pads; toes largely webbed. Soles hairy behind. Body slender.
- B. Subplantigrade. *Soles and between the pads hairy. Body stout. Tail short, bushy. Anal glands none. False grinders $3/4$.*
6. GULO. Tubercular grinder oblong, transverse; flesh-tooth elongate, with a small subanterior inner lobe.
- C. Plantigrade. *Soles of hind feet bald, callous. Body elongate. Anal glands distinct. False grinders $2/3$; tubercular grinder oblong, transverse.*
7. GALERA. Tail elongate. Soles of hind feet with a central longitudinal depression behind, and obscurely divided into four large pads in front. Heels hairy.
8. GRISONIA. Tail short. Body slender.

Tribe 2. LUTRINA. Head depressed. Feet normal, rounded; toes webbed. Tail thick, tapering, depressed. Tubercular grinder oblong, transverse.

A. *Tail conical, tapering, entirely covered with hair.*

† *The palms and soles of the feet bald between the pads.*

* *The muzzle hairy; only the thin margin of the nostrils bald.*

9. BARANGIA. Claws rudimentary, blunt. Toes rather elongate.

** *The muzzle hairy between the nostrils; upper and front edge of the nostrils bald.*

10. LONTRA. Toes rather elongate, well webbed; claws sharp.

*** *The muzzle bald, band-like between the front and upper edge of the nostrils. Orbit of skull defined by a conical process behind.*

‡. *Foot oblong; toes thick, webbed to the claws, sharply clawed; pads of toes and palm large, close together.*

11. LUTRA. Claws acute, strong. Head and skull elongate.

12. NUTRIA. Claws acute, strong. Head and skull short, broad.

‡‡. *Foot oblong; toes rather slender, free at the end, bluntly or imperfectly clawed; pad of palm large, of toes slender, separated.*

13. AONYX. Skull broad, depressed.

†† *The palms and soles of the feet slightly hairy between the pads; the two inner hinder toes with a band of hair on the inner side of the under surface. Muzzle bald, transverse.*

14. HYDROGALE. Claws acute. Skull elongate; orbits not defined behind, without any superior orbital prominence. Hind feet elongate. Toes slender, broadly webbed.

††† *Palms and soles of feet hairy between the pads. Muzzle bald between the nostrils, and produced into an angle on the upper edge.*

15. LATAX.

B. *Tail subcylindrical, elongate, covered with hair, and with a narrow fringe-like expansion on each side. Hind feet elongate.*

16. PTERONURA.

Tribe 3. ENHYDRINA. Head depressed. Feet large, elongate, rather fin-like, hairy above and below. Tail short, cylindrical. Grinders massive, flat-crowned.

17. ENHYDRA.

Section II. PLATYPODA. *The feet elongate; toes straight; claws exerted, blunt.*

A. Plantigrade. *Hind feet broad, depressed; soles bald, callous nearly to the heel; toes short, thick; claws thick. Body heavy. Tail short. Ears short, rounded.*

Tribe 4. MELINA. Tubercular grinder large, oblong, elongate. Palate produced behind. Flesh-tooth with two more or less distinct tubercles on inner lobe.

* *Palate much produced behind; hinder opening in a line with the condyles.*

18. ARCTONYX. Tubercular grinder elongate. Nose of skull rather produced and contracted.

** *Palate moderately produced behind; hinder opening in a line with the middle of zygomatic arch.*

19. MELES. Tubercular grinder elongate, oblong. Nose of skull broad. Flesh-tooth moderate, trigonal; inner lobe with a single ridge.

20. **TAXIDEA.** Tubercular grinder large, triangular, oblong; inner side broad. Flesh-tooth large, trigonal, with a broad inner lobe with two tubercles. Nose short, broad.
21. **MYDAUS.** Tubercular grinder oblong, nearly square; flesh-tooth moderate, trigonal, outer edge compressed, inner with two unequal tubercles on a ridge. Nose of skull produced.

Tribe 5. **MELLIVORINA.** Tubercular grinder transverse, band-like; palate only slightly produced behind; flesh-tooth with a small inner lobe and a single tubercle. Fur black below.

22. **MELLIVORA.** Skull short, broad.

Tribe 6. **MEPHITINA.** Tubercular grinder oblong, four-sided. Palate scarcely produced behind; hinder opening in a line with the hinder grinders. Skull short. Nose broad. Fur black, white-striped.

23. **CONEPATUS.** Sole of hind feet only divided across. Tail short, bushy. False grinders 3.
24. **MEPHITIS.** Sole of hind feet with three pads in front. Tail elongate, flaccid. False grinders 4.
25. **SPILOGALE.** Sole of hind feet with four pads in front. Tail short, bushy, flaccid. False grinders 4.

B. Subdigitigrade. *Hind feet rather narrow; soles hairy, with a narrow, elongate, triangular, bald space in front; toes unequal; claws elongate, slender. Tubercular grinder transverse.*

Tribe 7. **ZORILLINA.** Flesh-tooth elongate, with a small anterior inner lobe with a single tubercle.

26. **ZORILLA.** Tail elongate, with flaccid hair.

Tribe 8. **HELICTIDINA.** Flesh-tooth triangular, having a broad internal lobe with two conical tubercles.

27. **HELICTIS.** False grinders $3/4$. Tail elongate, subcylindrical.

Section I. **ACANTHOPODA.** *Feet rounded; toes short, curved, more or less united by a web, the last joint bent up; the claws short, compressed, acute, retractile.*

Tribe 1. **MUSTELINA.** Head oblong. Toes slightly webbed. Tail cylindrical. Habits terrestrial or arboreal.

Mustelina, Gray, Ann. Phil. 1825; List Mamm. B. M.; Nilsson, Scand. Fauna, 138.

-*Martinae*, Burmeister, Baird, N. A. M. 148.

A. Digitigrade. Soles of the hind feet hairy, with four bald pads in front. Body elongate. Anal glands developed. Tail slender. Tubercular grinder short, transverse.

1. MARTES.

Teeth 38; false grinders $3/4$. Head elongate; feet very hairy; space between the pads covered; the hair of the feet is elongate, and more or less completely covers the bald pads at the base of the toes, and hides the toes and claws, especially during the cold weather.

Martes, Cuvier; Gray, L. M. B. M. xx. 63; Nilsson, Fauna Scand. 166.

a. Skull elongate, narrow, with the nose rather produced.

* Tail moderate, not so long as the body and head, bushy. *Martes*.

† The hinder upper tubercular grinder large, massive, nearly twice as long on the inner as on the outer side.

1. MARTES ABIETUM. Pine-Marten. B.M.

Brown; throat yellow or yellow-spotted.

Mustela martes, Linn. S. N. 167; Keyserl. & Blas. W. E. i. 67; Pallas, Zoogr. i. 85; Bonap. Faun. Ital. t.; Brandt, Zobel, t. 3; Middendorf, N. u. O. Sib. Säugeth. 69, t. 2. f. 1, 6; Schrenck, Amurland, 36.

Martes abietum, Ray; Gray, Cat. M. B. M. 63; Bell, B. Quad. 174; Gerrard, Cat. Bones B. M. 90.

Var. *vulgaris*. Dark brown; throat yellow.

Martes vulgaris, Gray.

Pine-Marten, Penn. B. Z. i. 97; *Mustela zibellina*.

Var. *martes*, Brandt, Zobel.

Martes sylvestris, Gesner, Quad. 867, f. 866; Nilsson, Skand. Fauna, 171.

Martes sylvatica, Nilss, Sk. Faun. i. 41.

Length 18 inches; tail 10.

Hab. Europe, England and France, B. M.; Russia, B. M.

Var. *altaica*. Paler; nose and feet brown, tail dark, throat and chest yellow. Intermediate between *M. abietum* and *M. zibellina*; but the feet are not so hairy. B.M.

Martes altaica, Pallas, Zool. Ross.-Asiat.

Hab. Altai Mountains. Skull and teeth like *Martes abietum vulgaris*.

2. MARTES JAPONICA. B.M.

Brown; shoulder and outside of thigh blacker; feet black; head, chin, and upper part of throat dark red-brown; throat and sides of the neck yellow, crown paler; the last upper tubercular grinder longer on the inner side.

Hab. Japan. From Mus. Leyden?

The specimen is not in a good state; the fur is evidently in change, the tail being slender, with a long terminal pencil. It is most distinct from the specimen of *M. melanopus*. In the Museum collection the upper tubercular grinder is smaller than in the *M. abietum*, and is much larger than in *M. americana*.

There is an indistinct patch of paler hairs in the front of the ear, on the left side, not seen on the other; the pale brown on the chest is marked with some small dark spots on the lower part. The skull, and especially the brain-case, is broader, compared with its length, than that of *Martes abietum* and *M. zibellina*, and is intermediate in form between them and *M. foina*.

3. MARTES BRACHYURA. Gezolen.

Fur short, fine, close, pale brown; tail short; ears small, rounded, whitish; feet very hairy.

Length, body 16–17 inches; tail $3\frac{1}{2}$ inches.

Mustela brachyura, Temm. Fauna Japon. 33; Schrenck, Amurland, 32.

Hab. Japan, near Zezo, and the Kurile Islands (*Siebold*).

Described from flat skins in Mus. Leyden.

4. MARTES MELANOPUS. Japanese Sable. B.M.

Fur soft, yellow brown; underside scarcely paler; orbit, and streak from orbit to nose, and feet blackish; crown of head paler; sides of nose, cheeks, and throat white.

Martes (Melampus) melanopus, Gray, C. L. B. M., 63; Gerard, Cat. Bones B. M. 91.

Mustela melanopus, Temm. Fauna Japon. 31, t. 7. f. 3, 4, animal and skull; Wagner, Schreb. Supp. ii.

Hab. Japan.

5. MUSTELA ZIBELLINA, Linn. Sable.

Fur very soft, black, grey, or yellow brown; throat like back, or paler yellowish or whitish; feet very hairy.

a. Fur blackish, with a few white scattered hairs; under-fur lead-colour; head and chin greyish, grizzled with pale grizzly hairs. B.M.

M. zibellina asiatica, Brandt, Zobel, t. 1.

b. Fur blackish, with many white hairs; under-fur whitish; orbit, cheeks, throat and chest whitish. B.M.

M. zibellina asiatica rupestris, Brandt, Zobel, t. 2. f.

c. Yellow brown; under-fur yellowish white; head, upper parts of body, neck, throat, and chest whitish; legs, feet, and tail darker. B.M.

M. zibellina asiatica, Brandt, Zobel, t. 2. f. 4.

d. Yellowish brown; under fur of same colour; ears and cheeks whitish; tail dusky, darker; feet blackish. B.M.

M. zibellina sylvestris, Brandt, Zobel, t. 2. f. 4.

e. Fur whitish or white.

M. zibellina, var. *alba* and *fulvo-flavescens*, Brandt, Zobel, t. 2. f. 5, 6.

Mustela zibellina, Linn. ; Pall. Spic. Zool. ; Blainv. Ostéogr. t. 7 (skull), t. 13. f. (teeth); Schrenck, Amurland, 27; Middendorf, N. u. O. Sib. Säugeth. 68, t. 2. f. 1, 2, 3, 5 (pelvis and tail).

Mustela zibellina, var. *rossica*, Brandt.

Martes zibellina, Brisson.

Viverra zibellina, Shaw.

Zibeline, Buffon, H. N.

Sable, Penn. ; Bennett, Garden and Menag.

Hab. North Europe, Asia.

Skull and the hinder upper grinders, according to M. de Blainville's figure, are like those of *M. abietum vulgaris*.

Middendorf (Säugeth. N. u. O. Sib. t. 2) figures the pelvis and tail of *M. zibellina* and *M. martes* of Siberia ; he represents the former as much shorter, and composed of thirteen, and the latter much longer and larger, and consisting of seventeen vertebræ.

†† *The upper hinder tubercular grinder quadrate, rather longer on the inner than on the outer side.*

6. MARTES AMERICANA. American Sable.

Brown or yellow ; throat yellow ; ears and head grey or white ; upper tubercular grinder small.

Mustela americana, Turton, Syst. Anim. i. 60, 1803 ; Baird, Mamm. N. Amer. t. 36. f. 2, t. 27. f. 7.

Mustela martes, var., J. Sabine ; Franklin's Voyage ; Richardson's F. B. Amer.

? *Mustela vulpina*, Rafinesque, Silliman's Amer. Journ. Sci. i. (tip of tail white).

Mustela zibellina, var. *americana*, Brandt, Zobel.

Mustela leucopus, Gerrard, Cat. Bones. B. M. 91.

Var. 1. *abietinoides*. Black-brown ; ears pale ; head grizzled with white hairs, more or less grey ; throat yellow or yellow-spotted ; throat-spot large or broken up into small spots ; the head sometimes with only a few grey hairs, and the throat with only a few distinct small spots. B.M.

? *M. vulpina*, Rafinesque.

Hab. Rocky Mountains (*Drummond & Lord*).

Var. 2. *huro*. Yellow-brown ; head and ears whitish ; throat pale yellow ; legs, feet, and tail blackish. B.M.

Mustela huro, F. Cuvier, Dict. Sci. Nat. xxix. 356 ; Richardson, Zool. Beechey's Voyage.

Marten of Hudson's Fur-list.

Sable of American traders.

Hab. Fort Franklin.

Var. 3. *leucopus*. The head, neck, and chest more white ; legs yellow ; feet white at the tip.

Mustela leucopus, Kuhl, Beitr. 70.

Mustela leucotis, Griffith's An. K. ii. 270, t. (misprint?).

M. Brandt observes, "I can find no difference between the Asiatic and American Sables in the characters of the head, ears, tail, or feet; and as, even in respect to colour, the sable of the Nischnaga Tunzuste, sent home by Middendorf, occupies an intermediate position between the dark Asiatic and the yellow American Sables, I am induced to consider the American animal rather as a yellowish or mere yellow-brown and less densely furred variety of the Asiatic Sable than as a distinct species or as a pure Marten (*Mustela martes*)."—Beitr. Säugeth. Russland, 1855.

Dr. Baird observes, "I am myself, however, far from admitting the identity of the American Marten with the Russian Sable, although it occupies a position intermediate between the latter and *M. martes* in size, length of tail, and coloration, as well as intrinsic value of fur. The white-headed varieties of New York are most like the Sable, and the dark-headed one of the western country like the Pine-Marten. I have never seen winter specimens of the latter, nor summer of the former, and am inclined to believe that all may exhibit more white on the head in winter than in summer."—Baird, l. c. 157.

It is curious that both Brandt and Baird seem to have overlooked the small size of the last tubercular grinder, which separates the American from the Old-World Pine-Martens.

The brain-case in the skull of the American specimen we have in the Museum is very thin, and so closely applied to the brain that it shows its convolutions on the outer surface; but this is not shown in the American skull figured by Dr. Spencer Baird. The same is to be observed in the Altaic specimen of *M. abietum*.

There is a series of specimens of the American Pine-Marten in the British Museum, collected by Dr. Lord during his excursion with the Boundary Commissioners. They vary greatly in colour, from pale brown to nearly black; and the throat is variously mottled with yellow.

The specimens from Russia have whitish heads, like the *M. leucopus* of Kuhl.

The stuffed Sables from Russia have short tails; but the tail of one of Dr. Lord's is almost as short: the tail seems to vary in length; but this may depend on the skinning, and, in the stuffed skins, on the preparation of the animals.

** *Tail elongate, slender; skull elongate, narrow; nose produced; upper tubercular grinder massive, broader on the inner side.*
Pekania.

7. MARTES PENNANTII. The Wood-Shock.

Black; head, nape, and front of back greyish; tail elongate.

Mustela pennantii, Erxl. Anim. 79, 1777; Baird, Mamm. N. A. 149, t. 36. f. 1, skull.

Mustela canadensis, Schreb. Säugeth. 492, t. 134, 1778; Rich-

ardson, F. B. A. 52; Blainv. Ostéogr. Mustela, t. 13. f. (teeth); Pr. Max. Arch. f. Nat. 1861, 229.

Mustela melanorhyncha, Bodd. Elen. Anim. 188, 1784.

Viverra canadensis, Shaw, Zool. i. 492, 1800.

Mustela nigra, Turton, S. N. i. 60, 1806.

Mustela piscatoria, Lesson.

Viverra piscator, Shaw, Zool. i. 414, 1800.

Mustela goodmanii, Fischer, Syn. Mamm. 217, 1829.

Gulo castaneus, H. Smith.

Gulo ferrugineus, H. Smith.

Martes canadensis, Gray, Cat. M. B. M. 63; Gerrard, Cat. Bones B. M. 91.

Fisher, Penn. Quad. 223.

Wejack, Hearne.

Wood-Shock, Hudson's Bay Comp. List.

Pekan (Canadians), Buff. H. N. xiii. t. 42.

Pekan Weasel, Penn. Quad. 202, 1781.

Black Fox, Lewis & Clark.

The last upper tubercular grinder is large and massive, like that of the European Pine-Marten (*M. abietum*).

b. *Skull swollen, flattened; nose short; upper cutting-teeth erect; tail moderate, not so long as body; subcylindrical.* Foina.

8. MARTES FOINA. Beech-Marten.

B.M.

Black-brown; throat white.

M. martes, var. *fagorum*, Linn. S. N. i. 67.

Mustela foina, Briss. R. A. 246; Erxl. Mamm. 468; Retz, Fauna, 20; Keyserl. & Blas. W. E. i. 67; Blainv. Ostéogr. Mustela, t. 4 (skeleton), t. 13. f. (teeth).

Martes fagorum, Ray.

Martes domestica, Gesner.

Martes foina, Nilsson, Skand. Faun. 167; Gerrard, Cat. Bones B. M. 191.

Fouine, Buffon, H. N. vii. t. 18-21.

Hab. Europe and Eastern Asia, in houses (England, France).

The tubercular grinder is large, massive, narrow on the inner side, as in the *M. abietum*, but not quite so large as compared with the other teeth.

The pad of the soles always exposed (*Baird*).

c. *Skull swollen, flattened; nose short, broad; upper cutting-teeth projecting; tail elongate, slender.* Charronia.

9. MARTES FLAVIGULA. White-checked Weasel.

Yellowish; head, nape, rump, legs, and tail black; chin and lower parts white.

Mustela flavigula, Bodd.

Mustela hardwickii, Horsf. Zool. Journ. iv. t. 8.

Viverra quadricolor, Shaw, Zool.

Mustela leucotis, H. Smith, in Griffith's A. K. t.

Martes gwatkinsii, P. Z. S. 1858, p. 516.

Mustela lasiotis, Temm.

Martes flavigula, Hodgson, P. Z. S. 1856, p. 398; 1858, p. 516; Gray, Cat. Mamm. B. M. 64; Cat. Hodgson's Coll. B. M. 12; Gerrard, Cat. Bones B. M. 91.

M. elliotii, Mus. E. Ind. Company.

Hab. Nepal Hills.

The tubercular grinder is moderate-sized, transverse, scarcely larger on the inner side; but this is larger, compared with its breadth, than in tubercular grinder of the *Martes americana*.

What is *Mustela martes henricii*, Westermann, Bijdrag. tot de Dierk. 13. t.?

Hab. Java, Sumatra, Borneo.

Skulls.	M. abietum.	M. leucopus.	M. melanopus.	M. foina.	M. flavigula.	M. canadensis.
Length of skull	in. 1. 3 6	in. 1. 2 10	in. 1. 3 1	in. 1. 3 1	in. 1. 3 4 $\frac{1}{2}$	in. 1. 4 0
— nose from front of orbit	1 0	0 9	0 10 $\frac{1}{2}$	0 10 $\frac{1}{2}$	0 10	1 1
— palate	1 9 $\frac{1}{2}$	1 5	1 7	1 6 $\frac{1}{2}$	1 7	2 0
— tooth-line from front of canine.....}	1 3	1 0	1 0	1 2	1 1	1 6
— lower jaw	2 3	1 7 $\frac{1}{2}$	2 0	1 11	2 0	2 7
— width over ears	1 4	1 2 $\frac{1}{2}$	1 6	1 6	1 8	1 7 $\frac{1}{2}$
— of nose in front of orbit	0 10 $\frac{1}{2}$	0 8	0 9	0 9 $\frac{1}{2}$	0 10 $\frac{1}{2}$	0 11

2. PUTORIUS.

Skull short, ventricose; teeth 34, false grinders $\frac{2}{3}$; the upper tubercular grinder small, transverse, scarcely larger on the inner than on the outer side; head short, ovate; feet hairy, space between the pads very hairy; body stout; underside blackish.

Putorius, Cuvier; Gray, Cat. M. B. M. xx. 64; Schinz, Syn. Mamm. 338.

Fætorius, Keys. & Blas.

Mustela putorius, Nilsson, Skand. Fauna, 147.

* *Back uniform.*

1. PUTORIUS FÆTIDUS. Polecat.

B.M.

Fur harsh, rigid, brown; skull scarcely contracted behind the orbits; orbits small; feet and tail black; mouth and ears whitish.

Mustela putorius, Linn. S. N. 167; Pallas, Zoogr. i. 37; Nilsson, Skand. Faun. 148, illum. t. 30; Blainv. Ostéogr. *Mustela*, t. 4 (skeleton), t. 7 (skull), t. 13 (teeth).

Mustela fætida, Klein.

Putorius typus, F. Cuvier.

- P. communis*, Cuvier, R.A.
P. vulgaris, Gray; Owen, Brit. Foss. Mamm. 122, f. 38, 39 (skull).
P. fetidus, Gray, Cat. Mamm. B. M. 64; Gerrard, Cat. Bones B. M. 92.
Fitchet Weasel, Penn. B. Z. 136.
 Var. 1. *furo*. More or less albino; eyes red.
Mustela furo, Linn.
Furet, Buff. H. N. vii. t. 26, 27, 28, 29.

Var. 2. *subfuro*, Polecat-Ferret. Yellow; the legs, tail, toes, and tips of the hairs black; head white. Bred from two yellow Ferrets. (*Saffron Walden Museum*.)

Le Furet putoire, Buff. H. N. Supp. t. 27.

The skulls vary considerably in the width and depression of the brain-case; but they are never suddenly contracted in front behind the orbit, as the skull of *P. eversmannii*.

2. PUTORIUS EVERS-MANNII.

Fur soft, black-brown, in winter whitish or yellowish, hairs of back black-tipped; limbs short; the thighs and end of the tail black; the skull broad; brain-case suddenly and strongly contracted in front behind the orbits; orbits large.

Mustela putorius, var., Pall. Z. R. A. 89.

M. eversmannii, Less. Man.; Nordm. Faun. Pont. 16.

M. putorius, var. *sibirica*, Fischer, Syn. Mamm.

M. putorius, Blyth, J. A. S. B. xi. 281.

M. putorius tibetanus, Hodgson, J. A. S. Beng. xxiii. 446, 1849, i.; Horsf. Cat. Mus. I. H. 103, P. Z. S. 1856, 398.

Hab. Siberia (*Pallas*), B.M.; Thibet (*Hodgson*), B.M.

The skull is considerably larger than that of the *Putorius fetidus*.

3. ?PUTORIUS NIGRIPES.

Yellowish brown above, below white; forehead, feet, and end of tail black. Tail and hair at end one-third the length of body and head; length 19 inches; tail $5\frac{1}{2}$ inches.

Putorius nigripes, Aud. & Bachm. N. A. Quad. ii. 297, t. 93; Baird, N. A. Mamm. 180.

Hab. North America, Platte region. Not seen by Dr. Spencer Baird.

** *Back spotted or mottled.*

4. PUTORIUS SARMATICUS. Vormela, or Peregusna. B.M.

Fur soft, brown and yellow, varied above; head, belly, feet, and tip of tail deep black; frontal band and ears white.

Mustela sarmatica, Pallas, Spic. Zool. xix. t. 41.

M. peregusna, Guld.

M. præcineta, Ranz.

Putorius sarmaticus, Gray, Cat. Mamm. B. M. 64.

Hab. Russia.

3. MUSTELA.

The body elongate, slender. Limbs short; feet moderate; toes moderate, slightly webbed, covered with hair; space between the pads hairy. Tail elongate, slender, subcylindrical, covered with elongate hairs.

Skull elongate, depressed; teeth 34; præmolars 2/3, 2/3; upper tubercular grinder transverse, scarcely longer on the inner edge.

Fur dark above, white or yellow beneath.

Mustela, Linn.; Gray, Cat. Mamm. B. M. xx. 65.

Mustela (*Mustela*), Nilsson, Skand. Fauna i. 156.

Putorius (partly), Cuvier.

Mustela (*Gale*), Schinz. Syn. Mamm. i. 342.

* *Face without pale spot in front of ears.*

† *Back uniform colour; tail black-tipped.*

1. MUSTELA ERMINEA. Stoat, or Ermine.

Brown above; upper lip, chin, and lower surface of body, inside of limbs, and feet yellowish white; tail brown, shorter than the body, end black. In winter all yellowish white; end of tail black.

Mustela erminea, Linn. S. N. i. 68; Gray, C. M. B. M. 65; Nilsson, Skand. Faun. 157, illum. fig. t. 12; Gerrard, Cat. Bones B. M. 93; Schrenck, Amurland, 40.

Putorius erminea, Owen, Brit. Foss. Mamm. 116, f. 40, 41, 42, (skull).

M. ermineum, Pallas, Zoogr. i. 90; Buffon, H. N. vii. t. 29. f. 2, t. 31.

Stoat or *Ermine*, Penn. B. Zool. i. 89, 67, f. 18.

Hab. Europe, England, France; North Africa, B. M.

Var. 1. *africana*. Tail very short, black-tipped, one-sixth the length of body.

Hab. North Africa, Algiers (*B. M.*).

Var. 2. *kaneii*.

Putorius kaneii, Baird, N. A. Mamm. 172; Arch. f. Naturg. 1859, p. 9.

Hab. Kamtschatka; Tchucktchi country, Siberia.

Var. 3. *americana*. Tail more or less elongate, from one-third to one-half the length of the body.

Putorius noveboracensis, Dekay, N. Y. Zool. i. 36, t. 12. fig. 2, t. 14. f. 2, 1842; Baird, N. A. Mamm. 166, t. 36. f. 3 (skull); Pr. Max. Arch. f. Naturg. 1861, p. 220.

Putorius ermineus, Aud. & Bachm. N. A. Quad. ii. 56, t. 59.

Mustela cicognani, Bonap. Fauna Ital., Charlesworth's Mag. N. H. 1838, p. 37; Gray, List Mamm. B. M. 195.

M. fusca, Bachman, Journ. A. N. S. Philad. viii. 288.

M. (Gale) fusca, Schinz, Syn. Mamm. 243.

M. vulgaris, Thompson, Hist. Verm. 30.

Putorius fuscus, Aud. & Bachm. N. A. Quad. iii. 234, t. 148.

P. cicognani, Baird, M. N. A. 161.

P. longicauda, Richardson, Zool. Beechey, t. 10, 1839.

Mustela (Putorius) erminea, var. *long-tailed*, Richardson, F. B. A. 46, 1829.

M. longicauda, Bonap. Mag. N. H. 1838, p. 38; Gray, List Mamm. B. M. 195.

Hab. North America, Carlton House. B.M.

Bonaparte, Richardson, and Baird have separated the Weasels and Ermines of America and Europe into several species, on minute differences in the length of the tail as compared with the body.

Dr. Spencer Baird, in his work on the Mammals of North America, divides the Stoats into six species, by the length of the tail and the extent of the black on the tail. By his specific characters, the vertebræ of the tail in *P. richardsonii*, *P. noveboracensis*, and *P. longicauda* is about one-half, in *P. cicognani* it is one-third, in *P. ermineus* one-fifth, in *P. kaneii* one-sixth the length of the body.

When the bodies of several English Stoats have been compared, they show how deceptive that character is. I do not say that they may not be distinct; but, if they are, there must be other characters to separate them besides the mere length of the tail. They are spread over a large extent of country, and some of the presumed species have a large range.

The skulls of the English Weasel and Stoat are also found to be rather variable when a large series of them are compared.

They change colour when they live in a cold district, and the fur appears to become finer and denser in the more rigorous climates.

Dr. Spencer Baird described *P. noveboracensis* as having 52 vertebræ, including 4 sacral and 22 caudal; while *P. ermineus* has, according to him, only 19 caudal and 3 sacral, which are the typical numbers in the genus. As this has only been observed on one skeleton, it may be only an accidental variation.

2. MUSTELA RICHARDSONII. Richardson's Stoat.

Dark chestnut brown; upper lips and legs entirely brown; chin and under surface white; tail with a long black tip, depressed; distichous. In winter entirely white; tail-end black.

Mustela richardsonii, Bonap. Mag. N. Hist. ii. 38.

M. erminea, var., Richard. Faun. Bor.-Amer. 146.

Putorius richardsonii, Richard. in Zool. Beechey Voy. 10; Gray, Cat. Mamm. List B. M. 195; Baird, Mamm. N. A. 164.

Mustela erminea, Thompson, Hist. Verm. 31, 1842.

Putorius agilis, Aud. & Bachm. N. A. Quad. 111, 184, t. 140, 1833.

Hab. North America: Fort Traveller (*Richardson*); from Halifax to Vancouver's Island (*Baird*.)

I have not seen this species; but Dr. Spencer Baird describes it very particularly. The quantity of white on the upper lip seems to vary. There is in the British Museum an adult female Stoat from Cambridgeshire, which has only a very thin margin of white to the

upper lip. In most specimens of the European and American Ermines the white on the lips is very distinct and well marked.

The specimen formerly named *M. richardsonii*, in the British Museum, has the hinder part of the upper lip white, but the hair is bent back and lost off the front part.

3. MUSTELA AGILIS.

Reddish grey; hairs grey, with a broad yellow ring and reddish tip; tail shorter than the body, reddish grey, darker at the tip, beneath greyish white; head black, brown above, with a white border to upper lip.

Length 10 inches; tail 4; head $1\frac{1}{2}$.

Mustela agilis, Tschudi, Fauna Peruviana, 110 (not Bachm.); Baird, Mamm. N. A. 165.

Hab. Peru, Cordilleras.

†† *Back and tail uniformly coloured.* Gale.

4. MUSTELA VULGARIS. Weasel.

B.M.

Brown; lower lip and beneath white; upper lip and tail brown; tail less than half the length of the body. Winter-fur pure white.

Mustela vulgaris, Briss. R. A. 241; Erxl. M. 471; Gray, C. M. B. M. 65; Blainv. Ostéogr. Mustela, t. 7 (skull), t. 13 (teeth); Nilsson, Skand. 163; Gerrard, Cat. of Bones B. M. 93; Schrenck, Amurland, 41.

Mustela gale, Pallas, Zoogr. 194 (*albino* in winter).

M. nivalis, Linn. Act. Suec. vi. t. 8; S. N. 169.

Common Weasel, Penn. B. Z. i. 951, t. 7. f. 17.

Hab. North Europe, North Asia, England, France (*B. M.*).

Var. *americana*.

Putorius vulgaris, Richardson, F. B.-A. 145.

P. cicognani, Richardson, Beechey's Voy. 10.

Mustela vulgaris, Max. Reise, ii. 98.

Mustela pusilla, Dekay, N. Y. 134, t. 14. f. 1.

Putorius pusillus, Aud. & Bachm. N. A. Quad. ii. 100, t. 64; Baird, M. N. A. 159.

Common Weasel, Penn. Arctic Zool. 75; Pr. Max. Arch. f. Nat. 1861, p. 229.

Hab. North America.

Tip of tail sometimes darker.

5. MUSTELA BOCCAMELA.

B.M.

Chestnut; upper lip, inside of limbs, feet, and beneath white; tail almost half as long as the body, scarcely darker.

Mustela boccamela, Bechst. Naturg. Deutschl.; Sundevall, K. V. Acad. Hand. 1841, p. 215; Blainv. Ostéogr. Mustela, t. 13, f. (teeth); Kuster, Isis, 1835; Bonap. Fauna Ital. t.

PROC. ZOOLOGICAL SOC.—1865, No. VIII.

M. subpalmata, Ehrenb. Sym. Mamm. 2 ; Sundevall, K. V. Acad. Hand. 1842, p. 215.

M. vulgaris, Rüppell.

M. erminea, var., Nilsson, Skand. Fauna, 157.

Boccamela, Cetti, Hist. Sardinia, v.

Hab. South Europe, North Africa, Algiers (B.M.); Cairo (*Sundevall*).

6. MUSTELA ALPINA.

B.M.

Pale yellow-brown ; upper lip, chin, and beneath yellowish white ; head varied with black-tipped hairs ; tail cylindrical, unicolor, not so long as the body and head.

Mustela alpina, Gray, C. M. B. M. 67 ; Gerrard, Cat. Bones B. M. 94.

M. altaica, Pallas, Zoogr. Ross.-Asiat. i. t. 98.

M. gale altaica, Schinz, Syn. Mamm. 344.

Putorius alpinus, Gebler, Mém. Mosc. vi. 213 ; Férussac, Bull. Sci. Nat. 1825, p. 419.

Hab. Altai Mountains.

Varies in the darkness of colour of the lower part of the body ; in some specimens it is decidedly paler, with the line of separation well marked.

In some specimens the feet are entirely covered with hair ; and in others the pads are distinct, but covered with hair at the base.

††† *Back streaked.*

7. MUSTELA ALBINUCHA.

Black ; forehead, crown, and nape white ; four stripes on the back, converging in front and behind, pale-brownish white ; tail white, tapering.

Zorilla albinucha, Gray, Proc. Zool. Soc. 1864, p. 69, pl. x.

Hab. Africa, Angola.

This is a *Mustela* having the coloration of a *Zorilla*.

** *Face with pale spot in front of ears ; back uniform ; tail-end black.* American. Neogale.

8. MUSTELA BRASILIENSIS. Black-faced Weasel. B.M.

Brown ; head and tip of tail blackish ; spot before ears, another on centre of forehead, chin, and throat white ; chest and belly yellow.

Mustela brasiliensis, Sewast. Mém. Acad. Pétersb. iv. 356, t. 4 (good), 1813.

M. (Putorius) brasiliensis, D'Orb. Voy. Amér. Mérid. t. 13. f. 3 (skull).

M. frenata, Licht. Darstell. Säugeth. t. 42 ; Gray, Voy. Sulph. t. f. 2 ; Cat. M. B. M. 65 ; Gerrard, Cat. Bones B. M. 94.

Putorius frenatus, Bachm. N. A. Quadr. ii. 71, t. 60 ; Mamm. N. A. 173, t. 77. f. 1, 2 (skull) ; Mexico, 19.

Mustela javanica, &c., Seba, Thesaur. 177, t. 48. f. 4.

M. erminea, var., Pallas, Zoogr. Ross.-Asiat. 92 (from Seba).

Mustela gale leucogenis, Schinz, Syn. Mamm. i. 344 (from Seba).

Var. 1. Spot before ears and that on forehead confluent. B.M.

Var. 2. With a small white spot under the eyes. B.M.

In some specimens the feet are white or brown, with white toes; and in others the feet are brown-yellow.

Hab. Mexico, Matamoras (*Baird*); California.

Var. *brasiliانا*. Feet white; underside bright yellow. B.M.

Hab. Brazil.

Dr. Spencer Baird refers *M. brasiliensis*, Sewastonoff, to this species with great doubt, though it is a very good description, and moderate but characteristic figure.

9. MUSTELA AUREOVENTRIS.

B.M.

Dark brown; head and tip of tail blacker; chin and sides of the throat white; a spot in front of ears, throat, chest, insides of fore legs, and belly golden yellow; whiskers black; tail rather tapering, as long as the body; soles of the hind feet hairy; ears rounded, hairy. Length of body and head 12, tail 8 inches.

Var. Fore feet brown, with one or two toes white.

Mustela aureoventris, Gray, Proc. Zool. Soc. 1864, p. 55, pl. viii. (young); not *M. auriventer*, Hodgson.

Hab. Ecuador, Quito (*Gould*); New Granada (*Fraser*).

This may be a darker variety of the *M. brasiliensis*, wanting the spot on the forehead. The young from Quito is much darker than the adult; *M. xanthogenys* is intermediate as regards the spot on the head.

10. MUSTELA XANTHOGENYS. Yellow-checked Weasel. B.M.

Brown; tip of tail black; spot before the ears, chest, and beneath yellow; a small spot under each eye and the chin white; feet white.

Mustela xanthogenys, Gray, Ann. and Mag. N. II. 1843, p. 118; Zool. Voy. Sulphur, t. 9; Cat. Mamm. B. M. 66.

Putorius xanthogenys, Baird, Mamm. N. A. 176.

Hab. California.

Very like *M. brasiliensis*; but the head is coloured like the back, and the spot before the ears is yellow. There is a very small white spot over the orbit on one side.

M. de Blainville (*Ostéographie*) figures the upper jaw of a *Mustela* under the name of *M. patagonica*, with small teeth and a very short brim-like transverse tubercular grinder, that is quite unknown to me, and very unlike *M. humboldtii*, figured on the same plate.

4. VISON.

Body elongate, slender. Limbs stout; feet rather hairy; pads

bald, exposed; space between them bald. Tail moderate, shorter than the body, hairy. Skull elongate, depressed. Teeth 34; false grinders $2/3$; the upper tuberculated grinder rather large, inner lobe with one tubercle, outer edge with three.

Factorius, Keys. & Blas. 21.

Mustela, § *Lutreola*, Schinz, Syn. Mamm. i. 346.

Mustela, § *Putorius*, Nilsson, Skand. Faun. 152.

Putorius (sp.), Baird.

Body nearly as stout as that of an Otter. Very destructive in farm-yards.

The pads of all the toes are naked, not overgrown with hair; the soles with four pads placed at the base of the digits, the largest at the line of junction between the third and fourth digits, and well furred between the pads (*Baird*, 178). Feet in summer more naked than in winter.

a. *The upper tubercular grinder large, the inner half much larger and longer than the outer one; upper lip brown.* American Vison.

1. VISON LUTREOCEPHALA. American Vison. B.M.

Brown; lower lip and chin more or less white.

Var. 1. Darker; throat and chest not spotted. Vancouver's Island (*Dr. Lord*). B.M.

Var. 2. Chin entirely brown. B.M.

Mustela lutreola, Foster, Phil. Trans. lxii. 371; Sabine, Franklin Narr. 652, 1823.

M. vison, Briss. Quad. 246, 1756; Blainv. Ostéogr. *Mustela*, t. 13 (teeth).

M. (Putorius) vison, Richardson, Fauna B.-A. 48; Pr. Max. Arch. Naturg. 1861, p. 228.

M. (Martes) vison, Desm. Mamm. i. 183, 1820.

M. lutrecephala, Harlan, Fauna Amer. 63.

M. vison, var. *americana*, Schinz, Syn. Mamm. 347.

M. canadensis, Erxl. Syst. i. 447.

M. canadensis, β . *vison*, Bodd. Elench. Anim. 186.

M. winingus, Barton, Am. Phil. Trans. vi. 70, 1809.

M. minx, Ord, Guthrie's Geog. 281, 298.

M. (Lutreola) vison, Wagn. Schreb. Suppl. ii. 241.

Lutra vison, Shaw, G. Zool. i. 448.

Putorius vison, Gapper, Zool. Journ. v. 202; Aud. & Bachm. N. A. Quadr. i. 250, t. 33; Baird, Mamm. N. A. t. 37. f. 23 (skull).

Vison, Buffon, H. N. xiii. 308, t. 43.

Jackash, Hearne. *Fontereau*, La Hontan. *Otay*, Sagard. *Mink*, or *Minx*, Fur-traders, N. A.

Var. 3. Small; darker.

Putorius nigrescens, Baird, Mamm. N. A. 180; Aud. & Bachm. N. A. Quadr. 2nd edit. iii. 104, t. 124.

Hab. North America.

This animal has been confounded with *Mustela lutreola*, which is at once known from the *Vison* by the white spot on the side of the nose and the size of the tubercular tooth.

Dr. Spencer Baird thinks that the *Mustela rufa* of Ham. Smith (Jardine, Nat. Libr. Mamm. xiii. 189) is intended either for the *Vison* or the Pine-Martens (see Mamm. N. A. 17i).

b. *The upper tubercular grinder small, transverse, the inner half scarcely larger than the outer; upper lip white in front.* Old-World. *Lutreola*.

2. VISON LUTREOLA. Mank Nurec.

B.M.

Black-brown; tail-end blacker; spot on side of nose, on upper lip, and chin white.

Mustela lutreola, Linn. S. N. i. 66; Retz. Fauna, i. 9; Cuvier, R. A. i. 140; Nilsson, Skand. Faun. 152; Pallas, Spic. Zool. xiv. 46, t. 8. f. 1; Zoogr. i. 80.

Viverra lutreola, Linn. Faun. Succ. 5.

Lutra lutreola, Shaw, Zool.; Gloger, N. Act. Acad. N. Cur. xiii. 501; Baird, Mamm. N. A. t. 37. f. 23.

Fætorius lutreola, Struck. Arch. Freund. für Natur. Mecklenb. xiii. 139, 1859; Keys. & Blas. E. W. 21.

Lutra minor, Erxl. Syst. i. 451.

Tuhcuri leche, Vet. Acad. Hand. 1789, p. 302, t. 40.

Mank, Nilsson, Illum. Fig. . 2, t. 8.

? *Marsh-Otter*, Langsdorff.

Hab. Europe.

3. VISON SIBIRICA. Italse.

B.M.

Pale brown; head blackish, varied; spot on side of nose, on upper and lower lips, and front of chin white; tail-end pale brown, like back. Varies, throat more or less white.

Mustela sibirica, Pall. Spic. Zool. xiv. 86, t. 4. f. 2; Gray, List Mamm. B. M. 66; Schrenck, Amurland, 37; Gerrard, Cat. Bones B. M. 94.

Mustela italsi, Temm. Faun. Japon. 34; Gerrard, Cat. Bones B. M. 95.

Mustela natsi, Temm. Faun. Japon. t. 7. f. 2 (misprint).

Hab. Siberia (*B.M.*); Himalaya (*B.M.*); Japan (*B.M.*); China, Formosa (*Swinhoe, B.M.*).

Like *V. lutreola*; but much paler and smaller, and tail rather longer, compared with length of the body. Varies greatly in the quantity of white on the chin and throat. Males much smaller.

4. VISON CANIGULA.

B.M.

Pale reddish brown, scarcely paler beneath; face, chin, throat, side of neck, and chest white; tail as long as the body and head, coloured like the back; feet whitish.

Mustela canigula, Hodgson, J. A. S. Beng. xi. 274, 1842; Calcutta Journ. N. H. iv. 287; Gray, Cat. Hodgs. Coll. B. M. 13.

Var. (male?). Fur darker; face less white; chest brown-and-white mottled. B.M.

Mustela hodgsonii, Gray, Ann. and Mag. N. H. xi. 118, 1843; List M. B. M. 66.

Hab. Nepal Hills.

5. VISON HORSFIELDII. B.M.

Dark red-brown, scarcely paler beneath; under lip white; tail elongate, slender, not so long as the body, rather darker at the end.

Var. 1. Chin white; a small white spot on chest. B.M.

Var. 2. Chin brown; edge of under lip only white. B.M.

Mustela horsfieldii, Gray, Ann. and Mag. N. H. 1843, p. 113.

Hab. India, Bhootan (B. M.).

Var. 3. Lighter brown. B.M.

M. italsi, Verreaux (not Temm.).

Hab. Japan? (B. M.).

6. VISON SUBHEMACHALANA. B.M.

Pale red bay, scarcely paler beneath; nose blackish; small spot on side of nose, the chin, and sides of lower jaw, and two or three subconfluent spots on the chest white; tail elongate, and shorter than the body and head, black at the tip; body and head 13, tail to tip 7 inches.

Mustela subhemachalana, Gray, C. M. B. M. 67; Gerrard, Cat. Bones B. M. 95.

Putorius subhemachalana, Hodgs. Journ. A. S. B. 1837, p. 363; Wagner, Schreb. Supp. ii. 234.

Hab. India, Nepal.

	V. lutreoccephala.	V. lutreola.	V. sibirica.	V. horsfieldii.	V. subhemachalana.
	in. 1.	in. 1.	in. 1.	in. 1.	in. 1.
Length of skull	2 9 $\frac{1}{2}$	2 4	2 3 $\frac{1}{2}$	1 10	1 11
——— palate.....	1 3	1 0	1 0	0 10	0 10 $\frac{1}{2}$
——— tooth-line	1 0	0 10	0 9 $\frac{1}{2}$	0 8 $\frac{1}{2}$	0 8
——— zygoma or orbit	1 3	1 0 $\frac{1}{2}$	1 0	0 9 $\frac{1}{2}$	0 10 $\frac{1}{2}$
——— lower jaw	1 8 $\frac{1}{2}$	1 4 $\frac{1}{2}$	1 3 $\frac{1}{2}$	1 0	1 1
Width over the ears	1 2	1 0	1 0	0 10 $\frac{1}{2}$	0 10
——— at front of orbits	0 8 $\frac{1}{2}$	0 7 $\frac{1}{2}$	0 6 $\frac{1}{2}$	0 5 $\frac{1}{2}$	0 6

5. GYMNOPIUS.

The body elongate, slender. Limbs short; feet large; toes elongate, broadly webbed nearly to the tips, covered with scattered hair. Tail elongate, slender, covered with long spreading hair. The soles of the hind feet with three oblong pads, and an arched and a bald space behind them; the heel hairy. Teeth 34; premolars

2/3, 2/3; the upper tubercular grinder small, transverse, the inner half rather larger than the outer one.

Gymnopus, Gray, Cat. Mamm. B. M. xx. 1842.

* *Colour uniform above and below; head pale.*

1. GYMNOPUS LEUCOCEPHALUS.

B.M.

Golden fulvous, nearly uniform, scarcely paler beneath; head white; toes elongate, webbed, nakedish.

Putorius nudipes, F. Cuv. Mamm. Lith.

Mustela nudipes, Desm. Mamm; Müller, Verhand.; Gerrard, Cat. Mamm. B. M. 94; Blainv. Ostéogr. t. 13 (teeth).

Var. End of tail paler; feet darker; front of the back with a pale vertebral streak, wider and more distinct between the shoulders.

B.M.

Hab. Sumatra and Borneo.

Tail of the specimen in the Paris Museum is nearly destitute of hair; the soles of the feet are covered with hair.

The two stuffed specimens in the Museum are nearly alike, but the skull of one is much larger than that of the other; one is 2 inches 4 lines, and the other 2 inches 2 lines long.

** *Belly pale yellow.*

2. GYMNOPUS KATHIAH. Kathiah.

B.M.

Dark brown; upper lip, chin, throat, chest, underside of body, and front of thighs bright yellow; tail dark brown, shorter than the body and head, tapering, and of the same colour to the tip. Length of body and head 10, tail 4 inches; the soles of the hind feet bald, pads well developed, exposed.

Mustela (Putorius) kathiah, Hodgson, J. A. S. B. iv. 702, 1835; Gray, Cat. Mamm. B. M. 66; Gerrard, Cat. Bones B. M. 96; Wagner, Schreb. Suppl. ii. 233; Horsf. Cat. Mus. Ind. H. 102, P. Z. S. 1856, p. 398.

M. (Kathiah) auriventer, Hodgson, J. A. S. B. x. 909; Gray, Cat. Hodgs. Coll. B. M. 13.

Hab. India, Nepal.

3. GYMNOPUS STRIGIDORSUS.

B.M.

Fur dark chestnut-brown, with a very narrow streak of a few longer yellow hairs down the centre of the back; edge of upper lip, the chin, throat, chest, and a narrow streak down the centre of the belly (wider hindwards) yellow, becoming whiter in the older specimens; tail slender, about half the length of the body, dark brown.

Mustela strigidorsa, Hodgson, P. Z. S. 1856, p. 398.

M. strigodorsa, Hodgson, MS.; Gray, P. Z. S. 1853, p. 181, t. 491.

Hab. India, Sikim.

Very like *M. kathiah*, but with a yellow dorsal streak, and the

yellow on the belly much narrower. The soles of the hind feet bald; the pads exposed, distinct, developed.

4. GYMNOPUS AFRICANUS.

Reddish brown; beneath pale yellow, with a narrow central longitudinal reddish-brown ventral streak; tail reddish brown; hairs long.

Mustela africana, Desm. N. Dict. H. N. xix. 376; Desm. Mamm. 179.

Putorius africanus, A. Smith, South Afr. Journ. ii. 36.

Mustela (Gale) africana, Schinz, Syn. Mamm. 345.

The specimen of *M. africana* in the Paris Museum is like *M. erminea*, but lighter, larger, and the belly with only a broad yellow streak on each side, leaving the middle brown; tail uniform reddish brown, like the back, to the end.

	G. leucocephalus.		G. kathiah.	
	in.	l.	in.	l.
Length of skull	2	5	1	10½
— palate	1	1	0	9½
— tooth-line	0	9½	0	7
— zygoma and orbit	1	1	0	9½
Width over ears	1	0	0	10
— in front of orbit	0	7	0	5½
Length of lower jaw	1	4	0	11½

B. Subplantigrade. Soles and between the pads hairy; body stout; tail short, bushy; anal glands none; false grinders 3/4. Gulonina.

6. GULO.

Gulo, Gesner, Quad. 554; Store; Gray, Cat. Mamm. B. M. xxi. 68; Nilsson, Skand. Fauna, 138.

Body and tail bear-like. Soles densely hairy, with 6 small naked pads. Tail about as long as head, very full and bushy. Teeth 38; false grinders $\frac{3-3}{4-4}$.

GULO BOREALIS.

Brown, with a blackish dorsal disk.

Mustela gulo, Linn. Syst. Nat. i. 67; Gunnerus, Act. Nidros. iii. t. 3. f. 5.

Ursus gulo, Cuv. Tab. Elém. 112; Schreb. Säugeth. 525, t. 144, 144*.

U. luscus, Linn. Syst. Nat. i. 71.

Gulo luscus, Baird, Mamm. N. A. 181.

G. borealis, Retz. Fauna, 25; Nilsson, Skand. Fauna, 139; Illum. Fig. xiii. t. 31.

G. vulgaris, Gray.

G. wolverene, Gray.

G. luscus, Richardson, F. B.-A. 41; Gray, Cat. Mamm. B. M. 68; Blainv. Ostéogr. Mustela, t. 3 (skeleton), t. 7 (skull), t. 13 (teeth); Gerrard, Cat. Bones B. M. 96; Owen, Odont. p. , f. 7.

Gulo leucurus, Hedenborg.

Taxus gulo, Tiedem. Zool. i. 377; Fischer, Syn. Mamm. 154; Middendorf, N. u. O. Sib. 4; Schrenck, Amurland, 24.

Gulo arcticus, Desm. Mamm. 174.

Ursus (G.) sibiricus, Pallas, Spic. Zool. xiv. t. 2.

Glouton, Buffon, H. N. xiii. 278, Supp. iii. t. 48; Cuvier, Règne Anim. i. 145.

Gluton, Penn. Syn. 196.

Quickhatch or *Wolverine*, Edw. Birds, ii. 103, t. 103; Ellis, Hudson's Bay, i. 40, t. 4; Penn. Syn. 195, t. 20. f. 2.

Rossomaka, Nieremb. Hist. Nat. 188.

Jürf, Sundevall, K. Svensk. Vet. Akad. Handl. 1773, p. 222, t. 7, 8.

Carcajou, La Hontan.

C. Plantigrade. *Soles of the hind feet bald, callous; body elongate; anal glands distinct; false grinders 2/3; tubercular grinders oblong, band-like; transverse.*

7. GALERA.

Tail elongate; heel hairy; sole with a central longitudinal depression behind, and obscurely divided into four large pads in front. Teeth 34; false grinders, 2/3, 2/3.

Galera, Brown, Jam.; Gray, C. M. B. M. p. xx. 67.

Eraria, Sund.

Eira, H. Smith.

Galictis, sp., Wagner, Schreb. Suppl. ii. 214.

GALERA BARBATA. Tiara.

Black-brown; head paler; throat with a large white or yellow blotch.

Gulo barbatus, Retzius; Desm. Mamm. 175; Fischer. Syn. Mamm. 155.

Galictis barbara, Owen, Odont. t. 128. f. 1, 2, 3; Blainv. Ostéogr. Mustela, t. 13. f. (teeth).

Gulo canescens, Ill. Prod.; Licht. Verz. Doubl. 4.

Galera barbata, Gray, Cat. Mamm. B. M.; Gerrard, Cat. Bones B. M. 95.

Galea subfusca, Brown, Jam. t. 29. f. 1.

Galictis barbara, Wagn. Schreb. Suppl. ii. 214; Burmeister. Syst. Uebers. i. 1818; La Plata, ii. 409.

Mustela barbara, Linn. Syst. Nat. i. 67; Schreb. Säugeth. 493.

M. galera, Erxl.

M. gulina, Pr. Max. Abbild.

M. taira, Griff. A. K. t.

Viverra poliocephala, Traill, Mem. Wern. Soc. iii. 440, t. 23.

- V. vulpecula*, Schreb.
Eira iya, Ham. Smith, Nat. Lib. xiii. 202.
Guiana Weasel, Penn. Syn. 225.
Le Grand Furet, Azara, Essai, i. 197.
Grand Marte, Buff. H. N. Supp. vii. t. 60.
Tayra, Cuvier, Règne Anim. i. 146.
Taira, Cuvier, Oss. Foss. iv. 481.
Huron mago, Azara,
 Var. *peruana*, *Galictis barbara*, var., Tschudi, Fauna Peruana ;
 Arch. f. Naturg. 1844, p. 248.
Hab. Tropical America : Trinidad, Hodgkinson MSS.

8. GRISONIA.

Tail short ; body slender ; fur black below, white above ; soles of hind feet with an oblong pad behind and four oval pads in front (Zool. Trans. ii. t. 36). Teeth 34 ; false grinders 2/3, 2/3.

- Grisonia*, Gray.
Galictes, Bell, P. Z. S. 1837, p. 45 ; Trans. Zool. Soc. ii. 201 ;
 1841, t. 35, 36, 37.
Galidictes, Hodgson (not I. Geoff.).
Huro, I. Geoff.
Eraria, sp., Sund.
Eira, sp., H. Smith, Nat. Lib. xiii. 201.

GRISONIA VITTATA.

Black ; crown and upper parts of body white or yellowish white.

Var. Back blacker.

- Viverra vittata*, Schreb. Säugeth. 447, t. 124.
Mustela vittata, Blainv. Ostéogr. Mustela, t. 13. f. (teeth).
Ursus brasiliensis, Thunb. Mém. Acad. Pétersb. vi. 401, t. 13.
Lutra vittata, Traill, Mem. Wern. Soc. iii. 437, t. 19.
Gulo vittatus, Desm. Mamm. 175.
Mustela quiqui, Molini, Chili, iv. 258 ; Fischer, Syn. 222.
 ? *M. cuja*, Molini, Chili, 272 ; Fischer, Syn. 218.
Viverra cuja, Shaw, Gen. Zool. i. 433.
V. quiqui, Shaw, Zool. i. 432.
Galictis vittata, Bell, Zool. Journ. ii. 522 ; Trans. Zool. Soc. ii. 203, t. 35 ; Burm. Abh. N. Gesellsch. Halle, ii. 47 ; La Plata, ii. 408.
G. allamandii, Bell, P. Z. S. 1837, p. 47 ; Trans. Zool. Soc. ii. 204, t. 37.
Grisonia vittata, Fraser, Zool. Gard. 1862, p. 8 ; Gray, Cat. Mamm. B. M. ; Gerrard, Cat. Bones B. M. 96 ; Cuvier, Règne Anim. i. 146.
Grison, Buffon, H. N., éd. Allam., xv. 65, t. 5 ; F. Cuv. Mamm. Lith. t.
Fouine de la Guyane, Buff. H. N. Suppl. iii. 170, t. 22 & 25.
La cuja, Molini, Chili, 258.
Petit furet, Azara, Essai, i. 190.
Hab. Tropical and South America.
Anat. See Martin, P. Z. S. 1833.

Tribe 2. LUTRINA. Head depressed. Feet normal, subdigitigrade; toes webbed. Tail thick, tapering, depressed. Teeth normal; flesh-tooth acutely tubercular; tubercular grinders oblong, large. The nose convex and hairy beneath, without any central bald longitudinal groove. Aquatic.

Lutrina, Gray, Ann. Phil. 1825.

Lutrinæ, Baird, M. N. A. 183.

The first upper false grinder is small, subcylindrical, placed on the inner side of the canine tooth; it is often lost early; it is sometimes to be seen on one side, and not on the other; it is normally present in all the species, when perfect. The flesh-tooth of the Otters presents two very distinct forms: in some the inner lobe is moderate, its length only equalling about two-thirds of the outer part of the tooth; in others it is much larger, equal to the whole length of the outer portion of the tooth. The absolute size of the tooth seems to vary in the different species, and also in the different specimens of the same species, as is also the case with the upper tubercular grinder.

A. *Tail simple, conical, depressed.*

a. *The palms and soles of the feet bald between the pads; the palm-pads without any small circular warts on their hinder edges.*

* *Muzzle entirely covered with hair; the upper margin of the nostrils only bald.*

9. BARANGIA.

The nose entirely covered with hair; the narrow upper edge of the nostril only bare; ears short, rounded, hairy. Toes 5/5, rather elongate, broadly webbed, well covered with hair above; claws distinct, exposed, and blunt at the end. Palms and soles bald; the pads of the toes small, the central pads scarcely separated; the wrist-pad large and oblong. Tail conical, depressed, covered with hair. Skull elongate; orbit very imperfect, only defined by a slight prominence on the upper and lower edges; nasal and maxillary bones produced to a line even with the middle of the orbit; intermaxillary very slender. The flesh-tooth acutely tubercular, with the internal lobes on the front part of the inner edge, rounded, slightly more than half the length of the outer edge of the tooth. Tubercular grinder much broader than long.

1. BARANGIA SUMATRANA.

B.M.

Chestnut-brown, scarcely paler below; upper lip, chin, and upper part of the throat pale yellow.

Lutra barang, F. Cuvier, Dict. S. Nat. xxvii. 246; Gerrard, Cat. Bones B. M. 101.

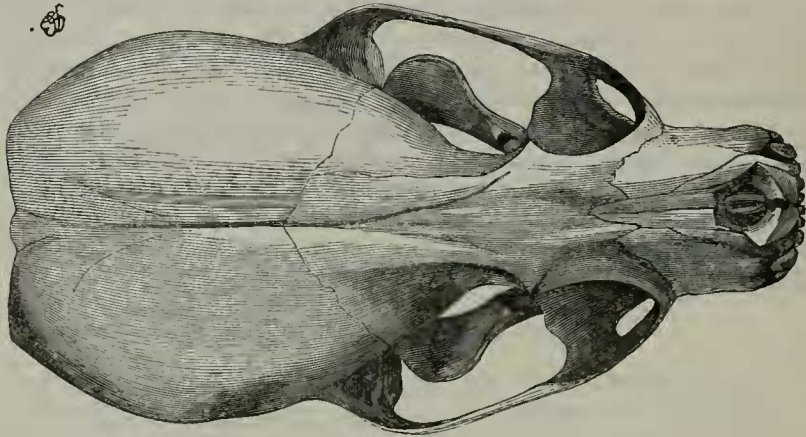
Barang, Raffles, Linn. Trans. xiii. 254.

Hab. Sumatra (*Raffles*); Malacca (B.M.).

Known from *Lutra leptonyx* (Horsfield) by the hairy nose, the

larger claws, and the more equal toes; the upper surface of the web of the hind feet covered with close hair, the lower surface bald; the fur short, with numerous polished flattened bristles; the under-fur short, close, pale brown.

Skull somewhat like that of *Hydrogale*; but the nose is more produced, and narrower, only as wide as the distance from the front orbit to the intermaxillary suture. The suborbital foramen is not so large, but oblong, transverse, wider at the outer end.



Barangia sumatrana.

2. *BARANGIA?* *NEPALENSIS.*

Skull, B.M.

The nose of the skull is considerably longer and wider, the part between the front of the orbits and the suture of the intermaxillary bones being considerably longer than its width in front of the orbits; the nose is arched above. The zygomatic arch is much more bent out, especially at the hinder end. The hinder opening of the palate is wider, and arched in front; the suborbital aperture is oblong, triangular, arched beneath, and nearly as high as wide.

Hab. Nepaul (*Hodgson*).

The imperfect skull above described is in Mr. Hodgson's collection, and named *Lutra monticola*; but it is very unlike the skull of either of the two other specimens so named. It agrees with the skull of *Barangia sumatrana* in the entire want of the tubercular process on the side of the frontal bone, which usually defines the hinder upper edge of the orbit; but it differs from it in so many particulars that I am convinced that it must indicate a separate species.

** *The muzzle partially hairy; front and upper edge of the nostrils bald, with the hair coming down in an angle between them in front.*

10. *LONTRA.*

Lontra, Gray, List Mamm. B. M. xxi. 70.

Suricoria, Lesson.

The muzzle hairy in the middle in front; upper and front edge of the nostrils bald and callous; the ears oblong, hairy. Toes strong, covered with hair above, half webbed; webs bald; claws strong, acute; palms and soles bald; pads well developed and divided. Tail conical, covered with hair. Skull dilated behind; nose very short, broad; forehead broad, flattened above; hinder edge of orbit marked with acute tubercles above and below; flesh-tooth with a very large rounded internal lobe extending the whole length of the tooth; tubercular grinders rather broader than long.

The under-fur very soft, scattered with short stiffer hairs.

1. *LONTRA ENHYDRIS.*

B.M.

The hair on the centre of the nose forming a broad erect band; fur dark chestnut-brown; the sides of the face, under the ears, and upper part of the throat yellowish.

? *Lutra enhydris*, F. Cuvier, Dict. Class. H. Nat. xxvii. 243; Fischer, Syn. 226.

Hab. Cayenne (B.M.).

M. F. Cuvier does not describe the peculiarity of the muffle; so that I am not certain that this is the species he describes.

2. *LONTRA BRASILIENSIS.*

B.M.

The hair on the centre of the nose forming a narrow erect band; fur pale brown,; upper lip, chin, and beneath rather paler.

Lutra brasiliensis, Ray, Blumenb. Abbild. t. 93; F. Cuvier, Dict. Sci. Nat. xxvii. 244.

Lutra brasiliensis, Shaw, Zool. i. 446.

Lontra brasiliensis, Gray, List B. M. 70; Ann. and Mag. N. H. 118; Gerrard, Cat. Bones, B. M. 100.

Lontra d'Amérique, Cuv. Règne Anim. i. 151, t. 1. f. 3.

Hab. Brazil (B.M.).

3. *LONTRA ? INSULARIS.*

Pale chestnut-brown, sides paler; sides of head and belly, lips, chin, throat, and chest yellowish white; under-fur short, very soft; hairs short and very smooth.

Lutra insularis, F. Cuvier, Dict. Sci. Nat. xxvii. 345.

Hab. Trinidad.

* Muzzle bald on the upper edge and between the nostrils, forming a cross band with a straight upper and lower edge; orbit of skull defined behind by conical processes.

† Foot oblong; toes short, webbed to the claws, sharply clawed; pads of toes and palm large, close together.

11. *LUTRA.*

The muzzle bald, oblong-transverse, with a straight upper and lower edge; the upper edge of the nostrils bald; the ears oblong,

hairy. Toes strong, webbed, covered with hair above and bald beneath; toes and palm-pads well developed; claws strong, acute. Tail conical, covered with hair. Skull elongate; orbit defined behind by a well-developed acute tubercle above and below; the flesh-tooth with a large inner lobe.

Lutra (*a.* and *b.*), Gray, Mag. Nat. Hist. i. 380, 1837.

† *Forehead and nose of skull flat; the inner lobe of the flesh-tooth large, almost two-thirds the length of the inner margin of the outer portion of the tooth. The hinder dentiferous portion of the maxillary bone, bearing the tubercular grinder, produced to the hinder edge of the orbit.*

‡ *Europe.*

1. LUTRA VULGARIS. Otter.

B.M.

The upper edge of the bald muzzle rather produced and angular, nearly as high as broad in the middle, brown, beneath ashy; ears, chin, and throat reddish ashy; edge of ears ashy.

Lutra vulgaris, Erxl. Mamm. 488; Nilsson, Skand. Faun. 175; Illum. Fig. t. 20; Keys. & Blas. W. E. 121; Bell, Brit. Quad. 129, f. 4; Gray, List Mamm. B. M. 70; Gerrard, Cat. Bones B. M. 100; Owen, Brit. Foss. Mamm. 119, f. 43, 44 (skull); Odont. t. 128, f. 4, 5, 6; Blainv. Ostéogr. Mustela, t. 8 (skull), t. 5 (skeleton), t. 13 (teeth); Bonap. Icon. t.

Mustela lutra, Linn. S. N. i. 66; Retz. F. 18.

Viverra lutra, Linn. F. S. 12; Pallas, Zoogr. i. 76.

Lu Loutre, Buff. H. N. vii. 134, t. 2, xiii. 325, t. 45.

Otter, Penn. B. Z. i. 92, t. 8. f. 19.

Var. Black-brown; throat paler.

Lutra roensis, Ogilby, Proc. Zool. Soc. ii. 110, 1834.

Hab. Europe, Bohemia (*B. M.*).

2. LUTRA NUDIPES.

Pale red; larger than *L. vulgaris*; the webs of the toes bald. The young mouse-colour.

Lutra nudipes, Melchior, Säugeth. des Danischen Staats; Schinz, Syn. Mamm. i. 344.

Hab. Denmark, on the sea-coast.

There is a large Otter in the British Museum, which was presented by Mr. G. Vaughan as coming from Canada; but I cannot discover any character by which it can be distinguished from the common European Otter, and I suspect the habitat given is a mistake.

‡‡ *Asia.*

3. LUTRA CHINENSIS.

Upper edge of the bald muzzle straight, transverse.

Fur pale brown; ends of ears, lips, cheeks, chin, throat, under-part of the body, undersides of the legs, and underside of the base of the tail pale yellow.

Lutra chinensis, Gray, Loudon's Mag. Nat. Hist. 1836, p. 580; Gray, List Mamm. B. M. 71; Horsf. Ann. and Mag. N. H. xvi. 109, 1855; Tyler, Ann. and Mag. N. H. xiv. 772, 1854, P. Z. S. 1856, p. 399.

L. nairi, Swinhoe, Proc. Zool. Soc. 1861, p. 390. B. M.

Hab. China (*Reeves*), B. M.; Formosa (*Swinhoe*), B. M.

The suborbital foramen large, oblong, trigonal, nearly as high as wide in the middle; lower edge arched.

4. LUTRA INDICA.

Bald; muzzle square. Fur pale brown, grizzled with white hairs; lips and under part of the body pale brownish white; under-fur short, with scattered, slender, elongated hairs.

Var. Tip of tail white.

Lutra indica, Gray, Loudon's Mag. Nat. Hist. 1837, p. 580.

L. tavayensis, Hodgson, J. A. S. B. viii. 319, 1839; Ann. Nat. Hist. iv.; Blyth, J. A. S. B. xi. 99.

? *L. nairi*, F. Cuv. Dict. des Sci. Nat. xxvii. 247; Fischer, Syn. 228; P. Z. S. 1850, p. 156.

Hab. India, Madras (*Walter Elliot*), B. M.

This may be the same as the former, *L. chinensis*; but I have not been able to examine the skull.

†† *Forehead and nose of skull convex; the inner lobe of the flesh-tooth very large, occupying the whole of the inner side of the outer portion of the tooth; the hinder dentiferous portion of the maxillary bone, bearing the upper tubercular grinder, produced behind the hinder edge of the orbit.* Lutrogale.

* *Asia.*

5. LUTRA MONTICOLA.

B. M.

Grey ash ground; greyer beneath.

Inner lobe of the flesh-tooth very large, as long as outer edge.

Lutra monticola, Hodgson, Ann. and Mag. N. H. iv., P. Z. S. 1855, p. 126 (not described); Gerrard, Cat. Bones B. M. 100.

Hab. Himalaya.

The Museum has received skulls of two distinct species under the above name, one with large and the other with small inner lobe to the flesh-tooth.

The skins belonging to the skull with the large teeth are in a very bad condition; they are probably bleached.

Consult also *Lutra simul*, Horsf. Zool. Journ.; Müller, Verhand. 51; from Sumatra and Borneo, with strong falcate claws. I have not seen this species, nor *Lutra katab* (Hügel, Reise) from Cashmere.

** *America.*

6. LUTRA MACRODUS.

B.M.

Dark brown; upper lip, chin, and beneath paler. Fur rather harsh. Upper edge of the bald muzzle straight, transverse; the flesh-tooth with a very large internal lobe, as long as the tooth. Claws large, acute.

Hab. Brazil (*Parzudaki*). Male and female.

This Otter is about the size of *Lontra brasiliensis*; but it is at once distinguished from that species by the large size of the naked muzzle and the harshness of the fur. It is very like *L. vulgaris*; but the inner lobe of the flesh-tooth appears considerably larger; and M. Parzudaki assured me that he had received the pair direct from the Brazils, from a collector who shot them.

12. NUTRIA.

Like *Lutra* externally, with the bald muffle transverse, narrowed, and arched below. Skull short, broad. Nose broad. Forehead flat; the orbit defined behind by a well-marked conical tubercle above and below. The flesh-tooth with a very large internal lobe, extending the whole length of the tooth. Hinder portion of the palate short.

This genus is at once known from the Otter with the large internal lobes to the flesh-tooth, by the shortness and breadth of the skull and the shortness of the hinder contracted portion of the palate.

NUTRIA FELINA.

B.M.

Fur dark brown, with scattered, flat, whitish-tipped hairs. Lips, sides, and beneath pale brown. The web of toes scattered with hairs above.

Lutra felina, Molina, Hist. Nat. Chili, plate 2 (skull); Shaw, Zool. i. 441; Gerrard, Cat. Bones B. M. 101.

L. chilensis, Benn. P. Z. Comm. Sci. ii. 1832; Gerrard, Cat. Bones B. M. 101; Tschudi, Fauna Peruana, 120. B.M.

Chinchimen, Molina, 261.

Lutra californica, Gray, Mag. N. H. i. 580, 1837; List Mamm. B. M. 71; Baird, Mamm. N. A. 187?. B. M., type.

L. platensis, Waterh. Zool. Beag. t. 40. f. 4 (skull); D'Orb. Voy. A. Mérid. t. 12. f. 23; Gerrard, Cat. Bones, B. M.; Verreaux, (skull). B.M.

Hab. In the sea, Chili (*Bennett*); Peru, island of Chiloe (*Tschudi*); California (*P. P. King*); Kamschatka (*Verreaux*).

Mr. Tomes observes, "The Otter collected in Guatemala by Mr. Salvin agrees with the description and figure of *L. chilensis* (Waterh.), especially in the inner lobe of the flesh-tooth having the same angular form as in that species. In *L. platensis* the inner lobe of the flesh-tooth approaches more or less to a semicircular form. Dr. Baird figures the flesh-tooth of *L. canadensis* as in *L. platensis*" (P. Z. S. 1861, p. 280).

Consult (1) *Lutra montana*, Tschudi, Fauna Peruana, 120.

L. supra obscura, fusco-rufa, fusco irrorata, subtus nigricans.

Hab. Peru. Fresh water, 9000 feet above the sea. Length of body 5-6 inches; tail 10 inches.

(2) *Lutra paraguayensis*, Renger, Säugeth. v. Paraguay, 128; Wagner, Schreb. Säugeth. ii. 216; Burm. La Plata, ii. 410.

Nutria, Azara, Quad. i. 304.

Hab. Paraguay.

(3) *Lutra? aterrima*, Schrenck, Amurland, 43.

Viverra aterrima, Pallas, Zoogr. Ross.-Asiat. i. 81.

Mustela aterrima, Pallas, Middendorf, Sibirische Reise, i. 70.

Hab. Sea of Ochotsk.

- c. Feet oblong, rather elongate; toes rather slender, free at the end, bluntly or imperfectly clawed; pads of palms large, of toes slender, separate.

13. AONYX.

Muzzle bald, oblong, transverse; upper and lower edge nearly straight. Toes half webbed, index and middle united together to the third joint; claws obsolete or rudimentary and blunt; the inner toe very short, index longer, middle and fourth longest and equal, the fifth shorter than the index. Skull rather short, ventricose, and convex behind; nose short; forehead convex, arched; orbit defined by distinct conical tubercles above and below. Flesh-tooth with a very large internal lobe, nearly as long as the outer portion of the tooth, with two cross ridges on the crown; the upper tubercular grinder large, massive, rather wider than long.

The flesh-tooth of the *Aonyx* is larger and wider than in the Otters with well-developed claws. The outer margin of the tooth is produced outwards beyond the edge of the jaw, and furnished with a distinct margin.

Aonyx, Lesson, Man. 157; Fischer, Syn. 228; Gray, Loudon's Mag. N. H. 1857, p. 550; Cat. Mamm. B. M. 71.

Leptonyx, Lesson.

Anahyster, A. Murray, Proc. Roy. Phys. Soc. Edinb. i. 157 (from skull only).

* *African.* Claws very rudimentary. *Anahyster.*

1. AONYX LALANDII.

Brown, beneath paler; sides of the face, to the orbits and ears, throat, chin, and chest yellowish, divided from the darker colour by a defined line; shoulders and fore legs darker.

Very young animals are greyish white; the cheeks, chin, throat, and chest white; the shoulders browner.

PROC. ZOOL. SOC.—1865, No. IX.

Lutra inunguis, F. Cuv. Dict. Sci. Nat. xxvii. 248 ; A. Smith, S. A. Quart. Journ. ii. 36 ; Blainv. Ostéogr. Mustela, t. 8 (skull) ; Peters, Mossamb. 112.

L. (Aonyx) inunguis, Fischer, Syn. 228.

Aonyx inunguis, Gerrard, Cat. Bones B. M. 101.

A. lalandii, Lesson, Man. i. 57 ; Gray, Cat. Mamm. B. M. 71 ; Ann. & Mag. N. H. 1837, p. 119.

Lutra capensis, Schinz, Cuv. Thierr. i. t. 214.

Var.? *Anahyster calabaricus*, A. Murray, Proc. Roy. Phys. Soc. Edinb. 157 (skull, B. M.).

Lutra gambianus, Gray, Cat. Mamm. B. M. 111 (skull, B. M.).

L. poensis, Waterhouse, P. Z. S. 1838, p.

Hab. South Africa, in rivers and lakes ; Cape of Good Hope (*A. Smith*) ; Mossambique (*Peters*).

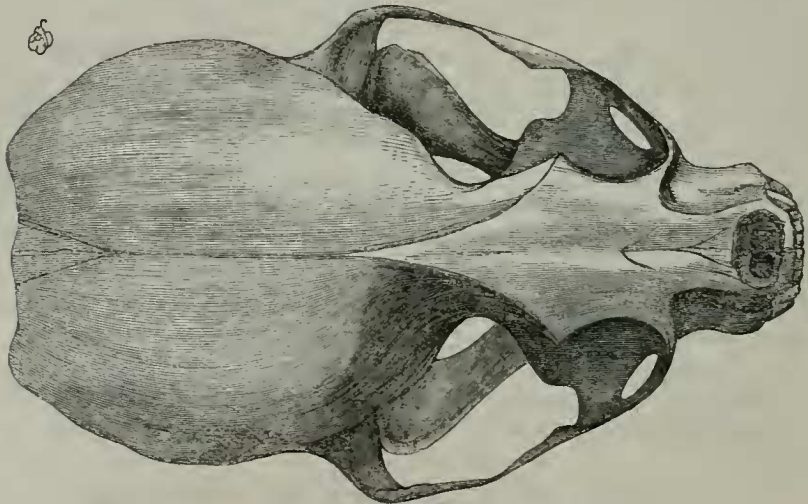
Lutra poensis ("Shining brown ; chest, chin, and throat fulvescent ; tail half as long as the animal ; muzzle bare"), from Fernando Po, described from a skin without feet, which is no longer to be found, is perhaps the same as the former.

** *Asiatic.* Claws rudimentary, blunt. Aonyx.

2. AONYX LEPTONYX. Indian Aonyx.

B. M.

Brown, rather paler beneath ; cheeks, chest, and sides of the neck paler ; chin and upper part of the throat white.



Aonyx leptonyx.

Lutra leptonyx, Horsf. Zool. Research. vii. t. ; Fisch. Syn. 277 ; Wagner, in Schreb. Supp. t.

L. cinerea, Illiger, in Schinz, Cuv. Thierr. i. 879.

L. perspicillata, I. Geoff. Dict. Class. H. N. ix. 519.

Aonyx horsfieldii, Gray, Ann. and Mag. N. H. 1837, p. 119.

A. leptonyx, Gray, List Mamm. B. M. 71.

Mustela fusca, Desch. MS. Icon. Ined.

M. lutra, Marsden, Sumatra, t. 12.

Senul, Raffles, Linn. Trans. xiii. 254.

Hab. Java; Sumatra.

The inner lobe of the flesh-tooth very large.

3. AONYX INDIGITATA.

B.M.

Brown, paler below; toes very short; claws short and blunt.

Lutra indigitata, Hodgs. Ann. and Mag. N. H. iv.; Blainv. Ostéogr. t. 24. f. 8 (skull).

Aonyx indigitata, Gray, Ann. & Mag. N. H. 1837, p. 119; Gerard, Cat. Bones B. M. 101.

A. sikimensis, Hodgson, Horsf. Ann. and Mag. N. H. xvi. 109, 1855; P. Z. S. 1856, p. 399.

Hab. Nepal Hills and Tarai.

Specimen very imperfect. "Colour medial earthy brown; paler below, especially on the head and neck. Length, snout to vent 24, tail 13, head $4\frac{1}{2}$, palm $2\frac{5}{8}$, planta $3\frac{1}{2}$ inches."—*Hodgs. l. c.*

4. AONYX AUROBRUNNEA.

B.M.

Lutra aurobrunnea, Hodgs. MS.; Ann. and Mag. N. H.; Proc. Zool. Soc. 1858, p. 126; Gray, Cat. Mamm. B. M. 71.

Aonyx aurobrunnea, Gray, Ann. and Mag. N. H. 1837, p. 119.

Hab. Nepal.

Specimen in very bad state.

Mr. Hodgson states, "the Otters, in the upper region of the Himalaya, are represented by the small golden and brown species *L. aurobrunnea*, in the central by *L. monticola* and *L. indigitata*, and in the lower by the large Chinese species *L. sinensis*" (Proc. Zool. Soc. 1855, p. 126).

d. *The under surface of the feet, between the finger-pads and palms, sprinkled with scattered soft hairs; the inner part of the under surface of the two inner hind toes with a band of close, short, soft hairs; the muzzle transverse and bald.*

14. HYDROGALE.

Like *Lutra* externally; but the feet large, elongate, very broadly webbed; the toes, especially of the hinder feet, long; the pads of the toes and palms are less developed and separated from each other by a greater distance; the under surface of the feet sprinkled with scattered soft hairs, and the edges of the two inner hind toes have a band of close, short, soft hairs. The skull elongate; the nose very short; the forehead narrow; the orbit scarcely defined behind, without any indication of a tubercle on either the upper or lower edge. The flesh-tooth with the internal lobe shorter than the outer portion of the tooth; the tubercular grinder rhombic, wider than long; the hinder portion of the palate rather short, with an arched posterior opening.

The nose of the skull very short, much broader than long from front of orbit to the intermaxillary bone; nose-aperture large, oblique; the hinder and outer portion of the upper jaws hairy; the tubercular grinder produced beyond the back edge of the orbit; nasal bones produced beyond the middle of the orbit; suborbital foramen large, oblong, transverse, occupying half the under edge of the orbit.

HYDROGALE MACULICOLLIS.

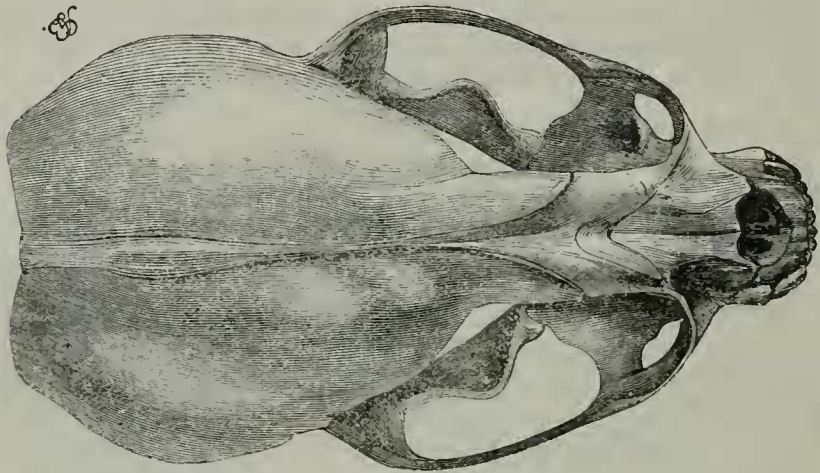
B.M.

Blackish brown; throat, breast, and belly yellow-spotted; upper lip and beneath paler.

? *Lutra maculicollis*, Lichtenstein, Arch. f. Nat. 1835, i. 89, t.

L. grayi, J. E. Verreaux, Rev. et Mag. Zool. 1857 (type, B.M.); Gerrard, Cat. Bones B. M. 101.

Hab. South Africa, Caffreland; Natal (*Verreaux*, Brit. Mus.).



Hydrogale maculicollis.

- e. *The palms and soles of the feet hairy between the pads, the hinder pads with four small circular rugosities; the bald muzzle large, broad, and high, angularly produced above, and continued by a narrow streak to the lips beneath.*

15. LATAX.

The muzzle bald, large, higher than broad, upper edge angular, produced above, the lower one arched; the feet moderately large; toes strong, hairy above, webbed; claws large, acute; tail conical, covered with hair. Under-fur long, very dense, and exceedingly soft, very closely covered with longer silky hair. Skull rather broad, depressed, ventricose behind; the forehead flat, rather broad; orbit defined by a strong acute conical prominence on the side of the forehead behind, above, but not below; the palate rather concave; the flesh-tooth large; the inner lobe as large as the outer section of the tooth; the upper tubercular grinder large, massive, rather broader than long.

Lataxina, Gray, List Mamm. B. M. 70.

Latax, Gray, Ann. and Mag. N. H. 118 (not Gloger).

Lutra, § c, Gray, Loudon's Mag. N. H. 1837, i. 380.

LATAX CANADENSIS.

B.M.

Black-brown, beneath paler; cheeks, lips, chin, and throat pale ashy-brown; front of neck grey-brown.

Very young black above and below, with very short close fur; lips whitish; claws very acute, whitish.

Var. Nearly uniform black; under-fur very soft, brown; the upper and lower lip, chin, and sides of throat brown.

Lutra canadensis, Sabine, Franklin's Voy. 653; Schreb. Sängeth. t. 126, 13; Richardson, Faun. Bor.-Amer.; Pr. Max. Arch. für Naturg. 1861, p. 236; Baird, Mamm. N. A. 184, t. 28 (skull); Gerard, Cat. Bones B. M. 101; Gray, Ann. and Mag. N. H. 1837, 119.

L. brasiliensis, Harlan, Faun. Amer. 72, 1825; Godmann, Ann. N. H. i. 222, 1831.

L. hudsonica, F. Cuv. Supp. Buffon, i. 194, 1831.

L. vulgaris canadensis, Wagner, Schreb. Supp. ii. 256.

L. lataxina, F. Cuv. Dict. Sci. Nat. xxvii. 243.

Lataxina mollis, Gray, List Mamm. B. M. 70.

Latax lataxina, Gray, Ann. and Mag. N. H. i. 119, 1837.

L. canadensis, var., et *Lataxina mollis*, Aud. & Bachm. N. A. Quad. iii. 976, f. 122, 1853.

L. californica, Baird, N. A. Mamm. 187 (not Gray).

Hab. North America, Canada.

“Muzzle longer than wide, sending down a naked point along the median line of the upper lip anteriorly. Under surface of the feet so covered with hair towards the circumference as completely to isolate the naked pads of the tips, a hairy stripe extending forward from beneath the carpus to the palm. The naked muzzle is quite large, its posterior outline running up into the forehead, so as to be as long, or rather longer than broad; this outline is decidedly \wedge -shaped, the acute angle behind. The lines are not quite straight, but slightly sigmoid. The anterior outline of the muzzle is gently semicircular, and anteriorly sends down a narrow point, dividing the hair of the lip over one-sixth of its length. The nostrils are large and open, their posterior line extending not beyond the centre of the naked muzzle.”—*Baird, l. c.* 184.

Lutra californica of Professor Baird (Mamm. N. A. 187) seems to be a variety of *L. canadensis*, or a new species of this genus. As he describes the feet as hairy, it must be distinct from my *L. californica*, which has the feet entirely bald, and has a skull like *L. chilensis*. He describes—

“Length about $4\frac{1}{2}$ feet, naked towards the forehead at an obtuse angle; muzzle wider than long; no naked point sent down from its anterior edge; under surface of all the feet but little hairy; the naked terminal pads not isolated from the other bare portions by hair, except in the central digits of the fore foot; the

naked portion of the palms not invaded by hair from the carpal region.

“Colour above liver-brown; the long hairs with lighter tips, and appreciably lighter on the belly; sides and under surface of head and the throat dirty white.”—*Baird*, N. A. Mamm. 187.

Mr. George Barnston, in an interesting paper on the Otters of North America, in the ‘Canadian Naturalist’ for June 1863, describes a small Otter, that destroys the Beavers’ dams in Canada, under the name of *Lutra destructor*, and figures the skull, lower jaw, sole, and hind foot.

“In the *Lutra destructor* the bones of the skeleton and cranium are less massive: the length of the skull being nearly alike (as with two specimens taken for exemplification), there is found in the *L. destructor* a less breadth in the postorbital process of the frontal, and the whole of the nasal bones are narrower and weaker. The outer measurement of the cavity of the brain approaches the oval, being convex in all aspects, and it exceeds the half of the total length of the skull from the occipital to incisors by nearly one-fourth of an inch: whereas the enclosing shell or covering of the brain in *L. canadensis* is almost equally half the length of the whole skull, it is also nearly flat on the top, presenting no rounded surface except close to the occiput, and there is no more decided narrowing of the cavity anteriorly, so that the general outline approximates less to the oval form, and more to the shape of a truncated cone. On the lateral view, with the lower jaw taken off, the skull of the *L. destructor* exhibits somewhat an arched appearance, the malars and facial bones are narrower, and the zygomatic arch rises to two-fifths of the height of the skull in the *L. canadensis*; on the same lateral aspect the plane of the head is straighter, the facial line deeper and broader, and the zygomatic arch raised to a parallel line of one-half the depth of the skull.”

The figure of the hind foot of *L. destructor*, fig. 7, shows “four callosities:” they are to be seen in all the specimens of *L. canadensis* in the British Museum; so that they are not specific, but show that *L. destructor* is most probably a *Latax*, as that is the only genus of Otter that I know having such callosities.

B. Tail elongate, flattened, with a fin on each side; hind feet large, rounded.

16. PTERONURA.

Head large, depressed; eyes small; ears small, round, very hairy inside; muzzle hairy; nostrils with only a slight naked space on their upper edge; feet very large; toes $5/5$, distinct, very largely webbed; tail elongate, subcylindrical, flattened, with a fin-like expansion on each side of the hinder half; hind feet large, rounded; claws long, acute; hinder toes very long, two outer ones largest, the others gradually shorter to the inner one. Cutting-teeth $6/6$; upper middle ones larger, equal, conical; the outer ones small, conical; inner elongated; grinders (not examined).

Pteronura, Gray, Loudon's Mag. Nat. Hist. 1837, p. 586; Cat. Mamm. B. M. xxi.

Pteronurus, Lesson.

Pterura, Wiegman; Schinz, Syn. Mamm. i. 356.

PTERONURA SANBACHII.

Fur soft, liver-coloured brown; orbits paler; lips, chin, and throat yellow, the latter brown-spotted; length of head $6\frac{1}{2}$, body 10, tail 12 inches; width of head from ear to ear $4\frac{1}{2}$; diameter of the fore foot $3\frac{1}{2}$; hind feet 4 inches long and 3 wide.

Pteronura sanbachii, Gray, Loudon's Mag. Nat. Hist. 1837. *p. 586* *all N H*

Pterura sanbachii, Wiegman, Arch. iv, t. 10; Schinz, Syn. Mamm. 357. *392 1030 m 1839. E*

Hab. Demerara (*Edmonston*, Mus. Roy. Inst. Liverpool).

See also *Lutra solitaria*, Natterer, Schinz, Syn. Mamm. 256 ("Chestnut brown, beneath dirty white; tail conical, graduate, attenuate, slightly fringed each side;" length of body and head 2 feet 1 inch, tail 1 foot 3 inches), which may be the same as the former.

Hab. Brazil, Ypanema.

Tribe 3. ENHYDRINA. Head depressed. Hind feet large, elongate, rather fin-like, hairy above and below, oblique, truncated; the outer toes largest; claws small. Tail short, cylindrical. Grinders massive, flat-topped. Flesh-tooth oblong, triangular, transverse; inner side narrow, tubercular: grinders similar, larger, outer edge narrow. *Marine*.

17. ENHYDRIS.

Tail short, cylindrical. Muzzle bald, oblong, triangular. Soles entirely hairy, like the upper surface of the feet; claws acute, small. Skull much dilated behind, and swollen. Teeth 34; pre-molars 3/3, 3/3; grinders very large, massive, flat-topped.

Enhydra, Fleming, Phil. Zool.; Gray, Cat. Mamm. B. M. xxi. 72; Baird, Mamm. N. A. 189.

Enhydris, Fischer, Syn. Mamm. 228.

Pusa, Aken.

Latax, Gloger (not Gray).

Professor Lichtenstein's figure of the animal, in the Darst. Säugeth. t. 49, represents the hind feet as too small and too much like those of a common Otter. The hind foot is like a compressed fin, quite as much, and even more so than the case of the Seal. It differs from the foot of the Seal in the toes gradually increasing in length from the inner to the outer one, making the foot appear obliquely truncated. In the Seals, the inner and outer toes are the longest, and the middle ones are the shortest. In some respects the foot of the Sea-Otter resembles that of the Beaver; but it differs in the toes, as well as in being entirely covered, both above and below, with short, close, silky hairs. The front claws are small, short, and very

acute. In the very young animal they are very acute and strongly curved at the tip, so as to be almost subspiral. The hinder claws are small and acute, rudimentary in the very young specimens. The muffle is bald: it forms a bald edge round the nostrils, which are only separated from each other by a rather narrow septum; and it forms a rather triangular bald space over them, the upper edge being sloping on each side, and rather arched in the centre. The figures in Capt. Cook's 'Voyages,' t. 57, give the best idea of this animal, showing the fin-like form of the hind feet; but the tail appears too depressed and Beaver-like.

ENHYDRIS LUTRIS. Kalan, or Sea-Otter. (Pl. VII.) B.M.

Black, grizzled with silver-white hair.

Var. Head white or grey.

Lutra marina, Steller, Nov. Com. Petrop. ii. 367, t. 16, 1751; Schreb. Säugeth. t. 128; Blainv. Ostéogr. Mustela, t. 8 (skull).

Mustela lutris, Linn.; Shaw, Mus. Lev. t.

Phoca lutris, Pallas, Zoogr. R.-Asiat. i. 100.

Lutra lutris, F. Cuv. Supp. Buffon, Mamm. p. 204.

Sea-Otter, Cook's Voy. ii. 645; Menzies, Phil. Trans. 1796, p. 385; Rich. North. Zool. 59.

Enhydra marina, Flem. Phil. Journ. ii. 187, 1821; Owen, Odont. t. 128. f. 13; Martin, P. Z. S. iv. 59, 1836, Osteology; Baird, M. N. A. 189.

Enhydris lutris, Gray, Cat. Mamm. B. M. 72.

E. stelleri, Lesson, Man. 156; Fischer, Syn. 229.

E. ? gracilis, Fischer, Syn. Mamm. 229.

E. marina, Hempr. Licht. Darst. Säugeth. t. 19; Eversmann, Reise um die Erde, t. 11, 12; Schrenck, Amurland, 43.

Latax marina, Lesson, N. Tab. R. A. 171.

Sea-Otter, Penn. Quad. ii.

Hab. California.

What is *Lutra lutris*, Geoffroy, F. Cuvier, Dict. Sci. Nat. (xxviii. 247, t.), *Lutra marina*, Desm. Mamm. 189, Schreb. Säugeth. (t. 129), with the feet one-third of the length of the body, from Kamtschatka? Is it a badly described *Enhydris*?

Section II. PLATYPODA.

Feet elongate; toes straight; claws exerted, blunt.

The flesh-tooth of this group is peculiar. In some genera it is of the usual normal shape, with a small internal lobe crowned with a single conical tubercle, as in *Mephitis*, *Zorilla*, and *Mellivora*; in *Conepatus* the inner lobe is broader, and has an elongated arched ridge on its inner edge. In some other genera, where the inner lobe is broad, it is crowned with two tubercles; they are distinct and well developed in *Taxidea* and *Helictis*, confluent, forming an oblique ridge, in *Mydaus*, and rudimentary and marginal in *Arctonyx*.

The genus *Bassaris* of the *Viverridæ* has, like these genera, two conical tubercles on the inner process of the flesh-tooth.

The form of the hinder part, and the position of the hinder opening of the palate, vary in the different genera.

In *Conepatus* and *Mephitis* it is wide and scarcely produced, and nearly in a line with the hinder edge of the grinders.

In *Mellivora* it is wide, but rather further back, in a line with the hinder edge of the orbit.

In *Meles* and *Taxidea* and *Mydaus* it is rather contracted, and placed still further back, being in a line with the middle of the zygomatic arch.

In *Arctonyx* it is produced still further back, the opening being rather behind, in a line even with the condyles; the hinder part of the palate behind the tooth-line is concave below, keeled on the sides above, and swollen on the sides in front.

A. Plantigrade. *Hind feet broad, depressed; soles bald, callous nearly to the heel; toes short, thick; claws thick. Body heavy; tail short; ears short, rounded.*

Melina, Gray, Ann. Phil. 1825.

Tribe 4. MELINA. Tubercular grinder large, oblong, elongate; palate produced behind; flesh-tooth with two more or less distinct tubercles on the inner lobe.

a. *Palate much produced behind; hinder opening rather behind, on a line level with the condyles. Nose of skull rather produced.*

18. ARCTONYX.

Arctonyx, F. Cuvier, Mamm. Lithogr. 51; Fischer, Syn. Mamm. 152; Gray, List Mamm. B. M. xxi. 70.

Synarchus, Gloger, 1842.

Skull elongate, broad and truncated behind. Nose elongate, rather compressed, rounded above. Forehead elongate, rounded on the sides. Orbits small, oblong, very incomplete behind; zygomatic arch strong, wider behind; the suborbital foramen circular; the palate concave in front, much produced behind, concave below, prominent and keeled on the sides; hinder opening far back, in a line with the condyles of the lower jaw; opening angular, acute in front; the bulla of the ear oblong, scarcely raised; the tube of the inner nostril vesicular and very thin at the sides. The cutting-teeth unequal, truncated, worn; the two middle ones smallest; the second on each side rather larger; the lateral pair much larger, very oblique. Canines conical, compressed, nearly straight, worn on the front edge, bent out at the end. False grinders 4; the first very small, sub-cylindrical, separated by a long diastema; the second compressed, trigonal. The flesh-tooth moderate, triangular, nearly as wide in front as the outer side; the outer edge with a compressed tubercle;

inner lobe with two small compressed marginal ridges. Tubercular tooth four-sided, massive, rather longer than broad, truncated in front, and obliquely truncated at the outer hinder side; outer edge with two compressed tubercles. Lower jaw elongate, produced and flattened in front. Cutting-teeth unequal, much worn, rather produced in front. Canines compressed, curved, worn on the front edge. False grinders 2, separated from the canines by a large diastema, compressed. The flesh-tooth large, elongate, oblong-ovate, with two conical tubercles in front, and two pairs of tubercles behind. Tubercular grinder circular.

ARCTONYX COLLARIS. Balisoar.

B.M.

Yellowish, black-washed; throat yellow; feet and a double streak on each side of the head black; tail elongate; ears very short, white-edged.

Meles taxus, Hardw. MS.

Arctonyx collaris, F. Cuv. Mamm. Lith. t. 51; Owen, Odont. t. 128. f. 12; Gerrard, Cat. Bones B. M. 98.

A. taxoides (*Balisoar*), Blyth, Journ. Asiat. Soc. Beng. 589.

Arctonix, Evans, J. A. S. B. vii. t. 43.

Mephitis assamensis, M'Clelland, Ind. Rev. 1858, p. 309.

Meles collaris, Ogilby, Penny Encyc. iii. 264.

Sand-Bear, Bewick's Quad. 257.

Mydaus collaris, Gray, Illust. Ind. Zool. t.; Gervais, Soc. Philom. 1842, p. 30; l'Institut, 1842, p. 116.

Arctonyx isonyx, Hodgs. P. Z. S. 1856, p. 398, t. 50.

Hab. Assam and Arakan.

I can find no difference between the specimen of *A. isonyx* (Hodgson, P. Z. S. 1856, t. 50) and *A. collaris*.

b. *Palate moderately produced behind; hinder opening on a line level with the middle of the zygomatic arch.*

19. MELES.

Head pointed; nose prominent; ears rounded. Body thick, heavy. Limbs short; front claws elongate, for digging. Tail short. Skull elongate, rounded behind; orbits incomplete, only contracted above. Teeth 36; false grinders $3/4$, $3/4$. Flesh-tooth moderate-sized, triangular. Tubercular grinder very large, four-sided, oblong, rather longer than broad.

Meles, Gesner, Quad.; Briss. R. A.; Nilsson, Skand. Faun. 182; Gray, List Mamm. B. M. xxi. 70.

Taxus, Cuvier.

The bald soles of the hind feet of *Taxidea leucurus* are oblong, occupying about two-thirds of the length of the foot, hairy behind, with four pads in front; the front and outer one smaller, triangular. The sole of the fore foot is oblong, with four unequal-sized pads in front and one oblong transverse one on the hinder margin (*Hodgson*, J. A. S. B. xvi. p. 2, t. 31. f. 4).

* *Skull larger ; nose compressed.* **Taxus.**

1. **MELES TAXUS.** Badger.

B.M.

Yellowish grey, black-washed; limbs and beneath black; face white, with a streak enclosing the eyes and ears black.

Ursus taxus, Blumenb. Handl. 10.

U. meles, Linn. Syst. Nat. i. 70; Schreb. Säugeth. 516.

Meles taxus, Boddaert, Elench. i. 80; Retz. Fauna, 23; Schreb. Säugeth. t. 142; Fischer, Syn. Mamm. 151; Gerrard, Cat. Bones B. M. 99; Nilsson, Skand. Faun. 183; Owen, Brit. Foss. Mamm. 109, f. 27 (jaw); Odont. i. 129. 61. 6 (see *a.* 465); Middendorf, N. und O. Sibir. Säugeth. 2; Gray, List Mamm. B. M.; Blainv. Ostéogr. Subursus, t. 2 (skeleton), 6 (skull), 9 (teeth).

M. europæus, Desm. N. Dict. Hist. Nat. iii. 465.

M. vulgaris, Desm. Mamm. 173.

Taxus vulgaris, Tiedm. Zool. i. 376.

Blaireau, Buffon, H. N. vii. 104, t. 7, 8.

Blaireau d'Europe, Cuvier, R. A. i. 145.

Common Badger, Penn. Brit. Zool. 30; Bell, Brit. Quad. 122.

Hab. North Europe; North Asia.

Skull ovate-elongate; face large; forehead flat; nose broad, flat above; orbits incomplete; supraorbital hole large, subquadrangular; brain-case ovate, narrow behind, obliquely truncated; palate rather concave, flat and produced behind, with a sharp keeled ridge on each side behind; the hinder aperture angular in front, in a line with the middle of the zygomatic arch. Cutting-teeth large, subequal, truncated. Canine conical, slightly curved. False grinders 2; front small, conical; second larger, compressed. Flesh-tooth moderate, trigonal, sides subequal, outer edge with two conical tubercles, outer lobe with two indistinct minute tubercles on the edges. The tubercular grinder large, massive, rather longer than broad, front edge concave, hinder rounded, obscurely truncated on the outer hinder margin, outer margin with three unequal slightly raised tubercles. Lower jaw strong; chiu arched; cutting-teeth truncated, unequal, the middle one on each side rather behind the others; canines conical, short, curved; false grinders 3, first very small, deciduous; second and third compressed, conical; flesh-tooth oblong, elongate, with three tubercles in front and two pairs of tubercles behind; tubercular grinder small, ovate.

Length of skull 5'' 3''', of nose 9''', of palate 2'' 11''', of lower jaw 3'' 9'''; width over ears 2'' 3''', of nose in front of orbits 1'' 4''.

2. **MELES LEUCURUS.** The Tumpha.

B.M.

Taxidea leucurus, Hodgs. Journ. Asiat. Soc. Beng. xvi. 763, tab. 31, 1847; Proc. Zool. Soc. 1853, p. 190; 1856, p. 398; Gray, Ann. and Mag. N. Hist. xii. 221, 1853.

Pseudomeles leucurus, Hodgson, MS. 1850.

Meles leucurus, Gray, Proc. Zool. Soc. 1853, p. 191; 1857, p. 768; 1858, p. 190; Ann. and Mag. N. H.; Horsf. Ann. and Mag. N. H. xvi.

108, 1855; Gerrard, Cat. Bones B. M. 99; Blyth, Journ. A. S. B. 1853, p. 589.

Hab. Thibet (*Hodgson*).

Very like *Arctonyx collaris*; but the fur of the back is longer and more flaccid, and the chin and throat are black, as well as the belly and legs, which is not the case in that animal. The skull is rather more tapering and more compressed than in the European Badger (*M. taxus*), which it most resembles.

Consult also *Meles albigularis*, Blyth, Journ. Asiat. Soc. Beng. 1853, p. 589, which is unknown to me.

** *Skull short; nose broad.* Eumeles.

3. MELES ANKUMA. Ankuma. B.M.

Meles ankuma, Temm. Fauna Japonica, t.; Gray, Proc. Zool. Soc. 1853, p. 191; Gerrard, Cat. Bones B. M. 99.

M. taxus, var., Middendorf, N. und O. Sibir. Säugeth. 3.

M. taxus, var. *amurensis*, Schrenck, Amurland, xvii. t. 1. f. 1, 4.

Hab. Japan.

The skull differs from that of *M. taxus* and *M. leucurus* in being much shorter, and with a rather broad nose (*Gray*, P. Z. S. 1853, p. 191).

20. TAXIDEA. American Badger.

Nose prominent. Ears rounded. Body heavy, stout. Limbs short. Feet plantigrade. Toes 5/5; front claws elongate, for digging. Tail short. Fur soft, with longer hairs. Skull broad, depressed, and truncated behind. Teeth 34; false grinders 3/3, 3/3. Flesh-tooth very large, triangular. Tubercular grinder triangular, not exceeding the flesh-tooth in size (see P. Z. S. 1853, p. 191).

Taxidea, Waterhouse, Trans. Zool. Soc. ii. 343, t. 59, 1841; Gray, List Mamm. B. M. xix. 70, Proc. Zool. Soc. 1853, p. 191; S. Baird, Mamm. N. A. 201.

Skull depressed, subtriangular, broad and truncated behind; nose short, broad; forehead small and slightly convex; suborbital foramen small, trigonal; orbits incomplete behind. Palate flat, rather produced behind; hinder opening arched, not so wide as the side margin. The auditory bulla large, convex, half ovate, vesicular, thin. The cutting-teeth short, strong; four central truncated, outer large, conical. Canines conical, nearly straight. False grinders two, conical; the hinder larger, with a thickened margin on the inner hinder edge. Flesh-tooth large, triangular, nearly as broad in front as on the outer side; outer side with two compressed confluent tubercles; inner side broad, with two conical tubercles, the hinder small. The tubercular tooth large, broad, subtrigonal, the inner edge long, the outer short, the hinder edge obliquely truncated. Lower jaw strong; condyles transverse; cutting-teeth in a close line, two middle small, two next larger, and outer largest, the four outer obliquely truncated; canines conical, curved; false grinders three, the first and

second small, conical, third compressed, with two confluent tubercles, outer edge thin; flesh-tooth oblong, with a single large tubercle in front and two pairs of others, the hind pair curved; tubercular tooth subconical, with three tubercles.

	in.	lin.
Length of skull	4	10
——— of nose	1	3½
——— of palate	2	6
——— of orbit and zygoma	2	5
Width of skull over ears	2	6
——— of nose at orbits	1	3
——— of skull behind	3	0
Length of lower jaw	1	5

TAXIDEA AMERICANA.

B.M.

Grey, black-and-white varied; neck and beneath white; spot before the ears, a narrow streak from nose, above the eyes, to the back, black; feet dark brown.

Ursus taxus, Schreb. Säugeth. 520, t. 142; Buffon.

Meles taxus, var. *americana*, Bodd. Elench. i. 136.

M. americanus, Zimm., from Penn. Arct. Zool. i. 76.

Ursus labradorius, Gmelin, S. N. i. 102; Shaw, Zool. i. 469, t. 106.

Meles labradoria, Sabine, App. Parry's Travels, 649; Richardson, Fauna Bor.-Amer. 40; Fischer, Syn. Mamm. 151.

M. jeffersonii, Harlan, F. Amer. 309.

Taxidea labradoria, Waterh. Trans. Zool. Soc. ii. 348, t. 59; Gray, List Mamm. B. M. 70; Gerrard, Cat. Bones B. M. 99; Baird, Mamm. N. A. 202, t. 39. f. 2.

Meles labradorius, Schinz, Syn. Mamm. 315.

Taxus labradorius, Say, Long's Exped. i. 261, 369, 1823.

Carcajou, Buffon, H. N. Supp. iii. 242, t. 49 (not La Houtan).

Taxidea americana, Baird, Mamm. N. A. 202.

American Badger, Penn. Syn. 204.

? *Brairo* (French Canadians), Lewis & Clarke, Trav. ii. 40.

Siffleur, French Canadians.

Flacyotl, Hernandez.

Var. *berlandieri*. Smaller; reddish above, with a narrow white dorsal streak.

Taxidea berlandieri, Baird, Mamm. N. A. 205, t. 39. f. 1 (Mexico).

Var. *Californica*, pale line continued from nape to base of tail (Bennett, P. Z. S. 1833, p. 42). (Skull, B. M.)

Hab. California (*David Douglas*); Texas (skull, B. M.).

21. MYDAUS.

Head conical. Nose attenuated. Muzzle rather produced, mobile, obliquely truncated; beneath rather bald, with a distinct central longitudinal bald groove. Nostrils inferior, lateral. Body short; limbs short. Feet plantigrade, soles broad, bald to the heel. Toes

5/5; front claws elongate, strong, unequal; hinder strong, rather acute. Tail short; anal glands distinct. Skull elongate; orbit not contracted behind. Teeth 34; false grinders 3/3, 3/3; grinders 4/5, 4/5; false 2/3, one rooted (*Blainv. Ostéogr. Subursus*, t. 1).

Mydaus, F. Cuv. ; Gray, Cat. Mamm. B. M. xxi. 69.

Mephitis, sp., Desm.

Mydaon, Gloger, 1842.

Skull elongate, slender in front; nose elongate, tapering, shelving on the sides; orbit very incomplete, small; suborbital foramen moderate, ovate; zygomatic arch flattened, slender; brain-case ovate, ventricose, truncated behind; palate slightly concave, especially in the middle behind; hinder opening to the nostrils ovate, in a line with the middle of the zygomatic arch; bulla of the ears low, slightly convex. The cutting-teeth broad, in an arched line, truncated, the outer ones rather the largest, with a slight notch in the hinder edge; canine compressed, far from the cutting-tooth; false grinders two, the first small, second compressed; the flesh-tooth roundish, trigonal, outer edge with a compressed marginal tubercle, inner lobe broad, rounded, with two conical tubercles, the hinder small, and united to the ridge on the outer margin; the tubercular grinder oblong subrhombic, rather longer than wide, the front and hinder edges obliquely truncated, with two compressed tubercles on each edge, the inner tubercle largest. Lower jaw rather slender; chin flattened, shelving; the cutting-teeth truncated, the middle on each side rather behind the rest; canine curved; false grinders three, compressed, the front small, the third with a conical lobe on the hinder edge; the flesh-tooth oblong, with three compressed tubercles on each edge, the hinder outer and the front inner being the largest and single, the front outer and hinder inner lobe being double-coned; tubercular grinder moderate, circular.

Length of skull 3'' 2''', palate 1'' 7''', of lower jaw 2'', of nose 1'', width of brain-case over ears 1'' 4½''', of nose at front of orbits 9''.

1. MYDAUS MELICEPS.

B.M.

Brown; crown, nape, dorsal streak, and tip of a very short tail white.

Var. *a*. Dorsal streak broad in front, and continued to tip of tail. B.M.

Var. *b*. Streak interrupted on withers, narrow behind; tip of tail white. B.M.

Var. *c*. Streak dilated into a broad patch over the withers, narrow behind; tail, great part white. B.M.

Ursus fœtidus, Desch. MS. Icon. B.M.

Midaus meliceps, F. Cuvier, Mamm. Lith. t.; Horsf. Java, t.; Cuvier, Oss. Foss. iv. 474; Gerrard, Cat. Bones B. M. 98; Fischer, Syn. Mamm. 155.

Mephitis javanensis, Desm. Mamm. 187; Raffles, Linn. Trans. xiii. 251.

Mydaus javanicus, Blainv. Ostéogr. Subursus, t. 1 (skeleton).

M. javanensis, Blainv. Ostéogr. Subursus, t. 7 (skull), t. 9 (teeth).

Stinkard or *Teledu*, Marsden, Sumatra, 117.

Hab. Sumatra (*Raffles*).

Tribe 5. MELLIVORINA. Tubercular grinder transverse, band-like; palate only slightly produced behind; flesh-tooth with a small internal lobe, with a single tubercle. Fur black below, white above.

22. MELLIVORA.

Mellivora, Stor.; F. Cuv.; Gray, L. M. B. M. v. 68.

Ratelus, Gray, Ann. Phil. 1825; Schinz, Syn. 329.

Lipotus, Sundevall, Kong. Vet. Acad. Handl. 1841, p. 211.

Ursitaxus, Hodgson, Asiat. Research. xix. 60, 1836.

Melitonyx, Gloger, 1842.

Head depressed; nose blunt; ears indistinct. Body stout, depressed; legs short, strong; plantigrade. Toes 5/5; front claws elongate, very strong, the bald sole of hind foot occupying the whole undersurface, only slightly divided across about one-third of its length from the front (*Hodgson*, J. A. S. B. t. 31. f. 2). Tail short, subcylindrical. Skull contracted behind; orbits very incomplete, scarcely contracted behind. Teeth 32; premolars 3/3, 3/3; grinders 4/4 (*Blainv.* Ostéogr. *Mustela*, t. 2).

De Blainville figures the skull and teeth of *M. indica* and *M. capensis*, t. 11 and t. 13; he represents the tubercular grinders of *M. indica* as much smaller than those of *M. capensis*, and the flesh-tooth as more unequally triangular (see t. 13).

The two species are alive in the Zoological Gardens, and have a specific appearance not easy to define in words.

1. MELLIVORA INDICA.

B.M.

Ursus indicus, Shaw, Zool. 1470.

Meles indica, Fischer, Syn. Mamm. 151.

Indian Badger (*Ursus indicus*), Hardw. Linn. Trans. ix. 115, t. 9.

Indian Badger, Penn. Syn. Quad. 16.

Ratelus mellivorus, Benn. Zool. Gard. 13 (fig. good).

Mellivora ratel, Gerrard, Cat. Bones B. M. 96.

Mellivora ratel, Indian var., Fraser, Cat. Zool. Gardens, 1862, p. 9; Bartlett, P. Z. S. 1835.

Ratelus indicus, Schinz, Syn. Mamm. 329.

Mellivora indica, Blainv. Ostéogr. *Mustela*, t. 6 (skull).

Mustela indica, Blainv. Ostéogr. *Mustela*, t. 13 (teeth).

Ursitaxus inauritus (*Bharsiah*), Hodgson, Asiat. Research. xix. 60, J. A. S. Beng. 1836, p. 671.

Hab. India (called "Beejoo").

Skull ovate, elongate; nose short, concave on the sides, flat above; forehead short, convex; orbits incomplete; suborbital foramen small, ovate. Brain-case swollen behind and truncated. Palate nearly flat in front, concave behind and slightly produced; hinder opening of the palate large; keeled on the sides, front edge arched; as wide

as long. Four middle cutting-teeth equal, truncated, the side ones conical, with a recurved tip; canines conical, nearly straight; false grinders two, crowded, thick, conical: flesh-tooth trigonal; outer edge rather the longest, with two conical confluent tubercles; the inner lobe anterior, roundish, with an acute conical tubercle: tubercular grinder transverse, band-like; outer half narrow, inner half considerably wider, rounded on the inner edge. Lower jaw strong; chin arched; cutting-teeth crowned, truncated, the middle one on each side behind the others; canines conical, curved back; false grinders three, rather crowded, thick, conical; the flesh-tooth oblong, of moderate size, with three conical tubercles in a single longitudinal series; tubercular grinder none (or small or early deciduous).

	in.	l.
Length of skull	5	4
————— palate	2	4
————— lower jaw	3	6
————— orbit over ears	2	3
————— nose in front of orbits	1	5½

The skull is very like *Gulo* in general form; but the upper flesh-tooth is triangular, and the larger internal lobe in *Gulo* is oblong, longitudinal, with a small internal lobe near the front end.

2. MELLIVORA RATEL. Ratcl.

B.M.

Skull higher.

Gulo capensis, Desm. Mamm. 176.

Ursus mellivorus, Cuv. Tab. Elém. 112, 1798.

Viverra capensis, Schreb. Säugeth. 450, t. 135.

V. ratel, Sparrm. Act. Stockh. 1777, t. 4. f. 2; Owen, Odont. t. 128. f. 10.

Mellivora capensis, F. Cuv.; Less. Man. 143, 2nd edit. i.; Blainv. Ostéogr. Mustela, t. 6 (skull), t. 2 (skeleton).

M. ratel, Gray, List Mamm. B. M. 68.

Viverra mellivora, Blumenb. Naturg. 97.

Ursus mellivorus, Blumenb. Naturg. edit. 10, p. 99.

Taxus mellivorus, Tiedem. Zool. i. 377.

Lipotus mellivorus, Sundevall, Kong. Vet. Acad. Handl. 1841, p. 211.

Mellivora capensis, Peters, Mossamb.

Ratelus capensis, Schinz, Syn. Mamm. 329.

Meles mellivora, Thunb. in Mém. Pétersb. iii. 107.

Ratelus typicus, A. Smith, S. Afr. Quart. Journ. ii. 35.

Mustela capensis, Blainv. Ostéogr. Mustela, t. 13. f. (teeth).

Stinkbinksen, Kolbe.

Blaireau puant, La Caille, Voy. 182.

Fizzler Weasel, Penn. Syn. 224.

Honey-Weasel, Shaw, Zool. i. 395.

Ratel, Sparrm. Kong. Vet. Acad. Handl. 1777, p. 49, t. 4. f. 3; Cuv. Règne Anim. i. 146.

Hab. South Africa (*Sparrman*); East Africa, Sennaar (*Sundevall*); Tette (called "Seve," *Peters*).

Tribe 6. MEPHITINA. Tubercular grinder oblong, quadrangular. Palate scarcely produced behind; nearly on a line level with the hinder end of the tooth-line. Fur black, white-streaked. Skull short.

The flesh-tooth in the three genera which Lichtenstein and most compilers have kept together under the name of *Mephitis* differs very considerably. In *Mephitis* and *Conepatus* it is short and broad; in *Mephitis* the inner lobe has a conical tubercle, and in *Conepatus* it has a long, marginal, semilunar one. In *Zorilla* the flesh-tooth is elongate, slender, much longer than broad, and it has a conical tubercle on its subcentral small inner lobe. The tubercular grinder in the two first genera is broad, massive, and square; in *Zorilla* it is oblong and transverse.

23. CONEPATUS.

Head conical; nose produced, hairy, and without any central groove beneath; muzzle produced, bald above, obliquely truncated beneath; nostrils inferior; ears orbicular, scarcely visible. The hind feet large, broad; the soles naked, half the length of the foot, oblong, broad, rugose and warty, rounded behind, divided into two convex parts by a cross groove, scarcely subdivided into smaller pads; front claws very long. Tail short, bushy, subcylindrical. Teeth as in *Mephitis*. Teeth 32; false grinders $\frac{2}{3}$, $\frac{2}{3}$; but flesh-tooth with long, marginal, semilunar tubercle.

Conepatus, Gray, Mag. Nat. Hist. 1837; Cat. Mamm. B. M. xxi. 69; Baird, Mamm. N. A. 192.

Marputius, Gray, Mag. Nat. Hist. 1837, i.

Thiosmus, Licht. Abhand. Akad. Berl. für 1836, p. 214, 1838 (real date); Baird, Mamm. N. A. 191.

Lycodon, D'Orbigny.

Ozolicetus, Gloger, 1842.

It has been supposed that Lichtenstein has the priority for the subgenus *Thiosmus*, because the paper appears nominally in the 'Transactions' for 1836, and my paper in the 'Mag. Nat. Hist.' 1837; but there cannot be a doubt that my paper was anterior, for Lichtenstein quotes it throughout.

CONEPATUS NASUTUS.

Black, with one or two white dorsal streaks. Tail short, bushy, white or white-and-black varied.

Mephitis nasuta, Bennett, Proc. Zool. Soc. 1833, p. 29.

Var. 1. *nasuta*. Black, with a very broad white dorsal streak; from forehead to tail white. B.M.

Mephitis nasuta, Bennett, Proc. Zool. Soc. 1833, p. 39; Gray, Mag. N. H. 1837, i.; Fraser, Zool. Typica, t.

M. mesoleuca, Licht. Abh. Akad. Berl. 1838, p. 271; Darstell. t. 44. f. 2; Pr. Max. Arch. f. Naturg. 1861, p. 212; Baird, Mamm. N. A. 192.

Thiosmus mesoleuca, Less. Tabl. R. A. 66.

Marputius nasuta, Gray, Mag. N. H. 1837, i.

PROC. ZOOLOGICAL SOCIETY.—1865, No. X.

- Viverra putorius*, Mutis, Act. Holm. 1769, p. 68.
V. marputio, Gmelin, S. N. ; Humb. Obs. Zool. 350.
Mephitis (Thiosmus) marputio, Licht. Abh. Ak. Berl. 1836, p. 270.
M. (Thiosmus) leuconota, Licht. Abh. Akad. Berl. 1836, p. 270 (1838), Mus. Berl. ; Baird, Mamm. N. A. 200.
M. intermedia, Saussure, Rev. Zool. 1860, p. 6.
M. mesoleuca ?, Tomes, P. Z. S. 1861, p. 280.
M. longicaudata ?, Tomes, P. Z. S. 1861, p. 280.
The Chinche (Viverra chingu), Molina, Essai de Chili, 240.
Hab. Mexico ; New Granada ; Santa Fé de Bogota ; California.
The Mephitis (Thiosmus) molinæ, Licht. l. c. p. 272, with the white dorsal streak broken into five oval spots, is probably only an accidental form of this variety.
- Var. 2. *humboldtii*. Black or blackish-brown, with a very broad dorsal streak, like var. 1, with a narrow black streak up the centre of the back, widest in the middle.
Conepatus humboldtii, Gray, Mag. Nat. Hist. i. 581, 1837 ; List Mamm. B. M. 69 ; Gerrard, Cat. Bones B. M. 97.
Mephitis humboldtii, Blainv. Ostéogr. Mustela, t. 13. f. (teeth).
Conepatus humboldtii, Owen, Odont. t. 12, 86, 11,
Mephitis patagonica, Licht. Abhandl. Akad. Berl. 1836, p. 275, t. (1838) ; Burm. La Plata, ii. 409.
? *Mustela (Lyncodon) patagonica*, D'Orb. Voy. Amér. ix. 3 f. 4 (skull).
Yaguare, Maikel, Falk. Patagon. 128.
? *Mephitis westermanni*, Reinhardt, K. D. Vidensk. Selsk. Förh. 1856, p. 270.
M. coneplate, Desm., Waterh. Cat. Zool. Soc. Mus. 29, 176.
Hab. Magellan Straits. B.M.
- Var. 3. *chilensis*. Black ; back with two broad white streaks, which are confluent on the forehead and continued to the tail ; tail black and white. (In one specimen the lateral streaks are narrow, interrupted on the side of loins, and in another, very young, narrow and not united on the forehead.)
Conepatus humboldtii, var., Gray, Mag. N. H. i. 581, 1837. B.M.
C. amazonicus, Gray, List Mamm. B. M. 69, 1842. B.M.
Mephitis furcatus, Wagner, Schreb. Säugeth. Suppl. ii. 129 ; Tschudi, Arch. f. Naturg. 1842, p. 248.
M. chilensis, F. Cuv. Dict. Sci. Nat. xiii. 126.
M. suffocans, Illiger, Licht. Darstell. t. 48.
M. (Thiosmus) amazonica, Licht. Abhand. Akad. Berlin. für 1836, p. 275, t. (1838). Type, B. M..
M. (Thiosmus) chilensis, Licht. Abhand. Ak. Berl. 1838, p. 272 ; Gray, P. Z. S. 1848. B.M.
M. (Thiosmus) quitensis, Licht. l. c. 273.
Gulo quitensis, Humb. Obs. Zool. 346.
Moufette du Chili, Buffon, H. N. Suppl. vii. 233, t. 57.
Mephitis of Chili, Griffiths, A. K. ii. t.
Conepatus chilensis, Gerrard, Cat. Bones B. M. 97. B. M.

Marputius chilensis, Gray, Mag. Nat. Hist. 1837, i. B.M.

Hab. Chili (*Bridges*, B.M.); Magellan Straits (*King*, B.M.).

Buffon's figure represents the tail too long and broad; it is a sub-cylindric tuft only, not so long as the body without the head.

Var. 4. *lichtensteinii*. Black; crown and nape with a broad white blotch, separated behind into two narrow nearly parallel white streaks on the middle of the back, reaching nearly to the loins; tail-end half white.

Hab. Tropical America.

This specimen is much distorted in stuffing; the tail is elongated by the stretching out of the hinder part of the body, so as to make it look like a *Mephitis*, for which the stuffer evidently mistook it.

From the examination of the stuffed and unstuffed skins, I have considered all the specimens we have in the British Museum to be varieties, because the differences in the coloration appear to pass into one another; but when we have the power to compare the living animal and the skeleton of each, we may discover that some of them are distinct species, having a peculiar geographical range.

Professor Lichtenstein notices another species, under the name of *M. gumilla*, on the authority of a notice of Skunk called "Maskutio" and "Mafutiliqui" in Gumilla's 'Orinoko' (vol. ii. p. 276), which is said to have many decurrent streaks and a villous tail.

24. MEPHISIS.

Nose short, underside hairy, with a distinct central groove; muzzle small; ears ovate, hairy, exposed. Hind feet moderate, subplantigrade; sole bald nearly or quite to the heel, the front portion divided into three large pads, placed in an arch; front claws elongate, arched, strong, white. Tail elongate, as long as, or longer than the body, with long, flaccid, dependent hair. Skull ovate; orbit incomplete. Teeth 34; false grinders 2/3; upper tubercular grinder small, moderate-sized.

Mephitis, § 1, Gray, Mag. N. H. 1837; List Mamm. B. M. xxi. 69.

Mephitis (partly), Cuvier.

Mephitis, § 1 (partly), Lichtenstein.

"The fœtid liquid is secreted by two glands, which empty directly into the rectum, and are enveloped in a thick muscular membrane, the contraction of which causes the ejection of the fluid to a considerable distance; it is said, however, to be restrained by holding the animal up by the tail when first discharged; it is said to be phosphorescent at night."—*Baird*, Mamm. N. A. 191. See also "Anal Pouches of the *Mephitis americana*," Warren, Proc. Boston Soc. N. H. ii. 175, 1850; Wyman, Proc. Boston Soc. N. H. 1844, p. 110.

Prof. Lichtenstein divides this into two subgenera—"planta pilosa" for *M. mesomelas*, and "planta subnuda" for *M. chinga* and the other species. I find the extent of the baldness of the sole varies in the different specimens of the same variety, both in the young and old specimens. The form and number of the pads are always alike, only becoming more marked in the older examples.

* *Tail as long as body.*

I. MEPHITIS VARIANS.

B.M.

Black, with two white streaks, converging and united on the crown; tail elongate, bushy; hair flaccid, black, generally white at the base, or all white.

Mephitis varians, Gray, Mag. N. H. 1837; Baird, Mamm. N. A. 193; Mexico, 19, 192 (skull).

M. macroura, Aud. & Bachm. N. A. Quad. ii. t. 102 (not Licht.).

Var. *a*. Crown white; streak broad, continued from the crown to the end of the tail; face with a narrow white streak.

Mephitis mesomelas, Licht. Darstell. d. Säugeth. t. 45. f. 2; Abh. Akad. Berl. 1836, p. 277; Gerrard, Cat. Bones B. M. 97; Baird, Mamm. N. A. 199.

M. occidentalis, Baird, Mamm. N. A. 194.

Moufette de l'Amérique Septentrionale, F. Cuv. Mamm. Lith.

Var. *b*. Like *a*, but no white streak on the face; back-streaks narrowed and almost interrupted on the loins. B.M.

Mephitis mephitica, Baird, Mamm. N. A. 195.

Var. *c*. Like *a*, with face-streak; but back-streak not reaching beyond (and some specimens not even to) the middle of the back, the white on the crown varying in size at the same time. B.M.

M. varians, Gray, Mag. N. H. 1837, t.; Baird, Mamm. N. A. 193; Mexico, 192, t. 60. f. 2 (skull); Gerrard, Cat. Bones B. M. 97.

Var. *d*. Like *c*; but no white face-streak; the spot on the crown with a pair of short streaks behind, not reaching to the shoulders.

Var. *e. chinga*. Face-streak broad; crown-spot and dorsal streaks very broad, occupying nearly the whole upper surface of the body, a short black dorsal streak from the base of the tail to or towards the shoulders.

Mephitis chinga, Tiedemann, Zool. i. 361; Licht. Darstell. d. Säugeth. t. 45. f. 1; Abh. Akad. Berl. 1836, p. 240; Pr. Max. Arch. f. Naturg. 1861, p. 218.

M. mephitica, Baird, Mamm. N. A. i. 195.

M. chinche, Fischer, Syn. Mamm. 160.

Mustela chinga, Blainv. Ostéogr. Mustela, t. 13 (teeth), t. 1 (skeleton), t. 6 (skull).

Viverra mephitis, Griffith, A. K. ii. 298.

Chincha americana, Lesson, N. Tab. R. A. 67.

Mephitis americana, De Kay, Zool. N. Y. t. 12. f. 1.

M. americana, var. *hudsonica*, Richardson, Fauna Bor.-Amer. i. 55.

Chinche, Buffon, H. N. xiii. 300, t. 39; Pennant, Arct. Zool. Mamm. 40; F. Cuv. & Geoff. Mamm. Lith. t.

Skunk, Kalm, Reise Nörd. Amer. ii. 412.

Wegak, or *Skunk*, Hearne, Hudson Bay, 377.

Enfant du Diable, Charlevoix, Nouv. Mém. ii. 133.

Speaking of the Skunk, Dr. Baird observes, "The species varies considerably in marking, though individuals from the same locality

are usually quite similar." He also states, in his specific characters, "The dorsal stripe sometimes broader, sometimes wanting, as also the nuchal patch." Dr. S. Baird has kept the *M. mesomelas* distinct because Lichtenstein describes the sole of that species as hairy; but some specimens of *M. varians* are so in the young state.

2. MEPHITIS VITTATA.

B.M.

Black; sides with a white streak from each shoulder; tail elongate; base of tail bushy; hairs flaccid, the greater part of them white at the base.

Var. *a.* Face with a narrow white frontal streak; streaks on sides very broad, arched in front over the shoulder. B.M.

Mephitis vittata, Licht. Säugeth. t. 47 (var. ?); Abh. Akad. Berl. 1838, p. 278; Baird, Mamm. N. A. 200.

Var. *b.* Face-streak none; streaks on sides moderate, straight, of same width. B.M.

Var. *c.* Face with a very narrow indistinct streak; fur all black; streaks on sides none, or reduced to a small white spot on the hinder part of one side, not seen on the other; hair on underside of tail white at the base. B.M.

Mephitis concolor, Verreaux, MS. ? B.M.

Hab. Mexico (*M. Salle*).

Lichtenstein's figures above quoted (t. 47) represent a variety of this species I have not seen, with spots on the withers, and the tail very long.

** *Tail longer than the body.*

3. MEPHITIS MEXICANA.

Fur very soft, silky; tail elongate, hair flaccid, long, and pendent, black; a narrow streak on the nose, a broad vertebral streak from crown to tail, and a narrow streak on each side of the back.

Var. *a.* With a small white spot on each shoulder.

Mephitis mexicana, Gray, Mag. Nat. Hist. i. 581, 1837.

M. macroura, Licht. Abh. Akad. Berl. 1838, t. 77; Darstell. t. 46. f. 1, 2; Gerrard, Cat. Bones B. M. 97; Baird, Mamm. N. A. 900.

Hab. Mexico.

Skulls.	<i>Mephitis varians, c.</i>		<i>Mephitis varians, b.</i>	
	in.	l.	in.	l.
Length of skull.....	3	0	2	9
— nose.....	0	10 $\frac{1}{2}$	0	10
— zygoma and orbit.....	1	3 $\frac{1}{2}$	1	2
— palate.....	1	1 $\frac{1}{2}$	1	0 $\frac{1}{2}$
— lower jaw.....	2	1	1	9 $\frac{1}{2}$
Width of brain-case over ears.....	—	—	1	3 $\frac{1}{2}$
— nose in front of orbit.....	0	11	0	10 $\frac{1}{2}$
— tooth-line of canine and grinders.....	0	11	0	10

25. SPILOGALE.

Head conical. Nose short, underside with a distinct central groove; muzzle small, bald, rather notched in front; nostrils lateral. Tail short, cylindrical, bushy, not so long as the body, ending in a long pencil of hair. Hind feet moderate; sole bald, flat, the front portion divided into four oblong pads, the central one small and triangular, before the others, hinder part narrow; front claws elongate, brown. False grinders $\frac{2}{3}$; upper tubercular grinder square, moderate size (*Lichtenstein*, Abh. Akad. Berl. 1836, t. 1. f. 2.

Mephitis, § 2, Gray, Mag. N. H. i. 1837; List Mamm. B. M. xxi. 69.

1. SPILOGALE INTERRUPTA. Little Striped Skunk. B.M.

Black; a spot on forehead, a spot on each temple, four streaks on back of neck and withers, a streak on side of body, that is bent up to the middle of the back behind, an interrupted band across rump, a spot on each buttock, and the base and tip of tail white.

Mephitis interrupta, Rafinesque, Anu. of Nat. iii. No. 4, 1818; Licht. Abh. Akad. Berl. 1836, p. 281, t. 2. f. 1 (tail not good).

M. bicolor, Gray, Ann. N. H. i. 583, 1837 (B.M.); Baird, Mamm. N. A. 197, t. 19 (Mexico).

Var. Tail-end black.

Mephitis zorilla, Licht. Abh. Akad. Berl. 1836, p. 281, t. 2. f. 2 (not Darstell.).

Le Zorille, Buffon, H. N. xiii. 302, t. 41.

Hab. North America, California (*Douglas*).

Prof. Lichtenstein has described two species—one with an oval nose-spot and white tail, the other with a small triangular frontal spot and black tail. I have only seen three specimens: one had a black, the other a white, and the last a black and white tail. They each had a different-sized and -shaped nose-spot.

Professor Lichtenstein has determined that the *Zorille* of Buffon is the American animal. It had been previously regarded as the Meer-cat of South Africa. It is figured by Buffon as from America; but his figure does not accurately represent either species.

B. Subdigitigrade. *Hind feet rather narrow; soles hairy, with a narrow, elongate, triangular bald space behind the palm-pads; toes unequal; claws elongate, slender; tubercular grinders band-like, transverse.*

Tribe 7. ZORILLINA. Flesh-tooth elongate, with a small, anterior, inner lobe with a single tubercle.

26. ZORILLA.

Head conical. Nose acute, hairy, with a central groove below. Muzzle small, bald, notched in front; nostrils lateral. Ears rounded, covered with hair. Fore feet strong; toes unequal, three middle

longest; claws elongate, compressed, acute. Hind foot digitigrade; sole flat and bald in front, with four unequal, large, convex pads, the hinder part compressed and covered with hair; toes unequal, the two middle longest and unequal; claws acute, short. Tail elongate, covered with long flaccid hair. Teeth 34; false grinders $\frac{3}{3}$, $\frac{3}{3}$; upper tubercular grinder short, oblong, transverse (*Licht. Abh. Akad. Berl.* 1836, t. 1. f. 3, skull).

Zorilla, Gray, List Mamm. B. M. xx. 67.

Ictonyx, Kaup; Sundevall, Kong. Vet. Akad. Hand. 1841, p. 214 (1842).

Rhabdogale, Wagner, Wiegmann; Schinz, Syn. Mamm. 332.

1. ZORILLA STRIATA. The Zorille.

Black; spot on forehead and each temple and four stripes on the back (which are diluted on the sides, only leaving a broad black patch on middle of the back, and then curving to the base of the tail) white; tail black-and-white varied.

Viverra zorilla, Thunb. Act. Petrop. iii. 306; Gmelin, S. N.

Mustela zorilla, Cuv. Tabl. Elém. 116 (1798).

Viverra striata, Shaw, Zool.

Mustela zorilla, Cuvier, R. A.; Fischer, Syn. Mamm.; Blainv. Ostéogr. Mustela, t. 13. f. (teeth).

Zorilla capensis, Waterh. Cat. Zool. Soc.; Gerrard, Cat. Bones B. M. 95.

Putorius zorilla, A. Smith, South-African Journ. ii. 36.

Mephitis africanus, Licht. Abh. Akad. Berl. 1836, p. 294.

M. zorilla, Licht. Darstell. d. Säugeth. t. 48. f. 2 (not Abhand.).

Zorilla leucomelas, F. Cuv.

Rhabdogale mustelina, Wagner, Schreb. Suppl. ii. 219, t. 133 a; Peters, Mossamb. i. p.

Ictonyx capensis, Sundev. K. Vetén. Acad. Hand. 1841, p. 214.

? *Mephitis libyca*, Ehrenb. Sym. Phys.

Zorilla striata, Gray, List Mamm. B. M. 67.

Mustela libyca, Blainv. Ostéogr. Mustela, t. 13. f. (teeth).

Putois du Cap, ou Zorille, Buffon, H. N. xii.

Muis-hond, Cape Colonists.

Var. *senegalensis*. White streaks broader, leaving only very narrow dark dorsal ones; tail whiter. B. M.

Hab. Africa, Cape of Good Hope (*Thunb.*), Senegal.

2. ZORILLA FRENATA. B.M.

Brown; fur elongate, very soft, fluffy; lips, chin, a broad band encircling the face, two broad bands diverging from the crown and two narrower diverging from shoulders, and some spots on the hinder part of the back white; tail white-and-black varied.

Mephitis (Ictonyx) frenata, Sundevall, Kong. Vet. Acad. Hand. 1841, t. 4. f. 1.

M. africana, var., Licht.

Mustela zorilla, var., Rüppell.

? *Rhabdogale multivittata*, Wagner, Schreb. Säugeth. Supp.
Hab. Sennaar.

See also *Zorilla vaillantii*, Loch (Rev. Zool. 497), from Algeria, which I have not seen.

Tribe 8. HELICTIDINA. Flesh-tooth trigonal, with a broad internal lobe with two conical tubercles. Tail cylindrical.

27. HELICTIS.

Head tapering; nose acute, conical; muzzle bald, obliquely truncated; underside hairy, with a central groove; nostrils inferior; ears ovate. Body slender; legs short; toes 5/5; front claws elongate, curved; hinder short and acute; sole of hind foot hairy behind, bald in front, and rhombic, for half the length of the foot, with three large oblong pads on the front and three small ones on the hinder edge; toes elongate; thumb short, far back, like *Herpestes*. Tail moderate, subcylindrical. Teeth 38; premolars $\frac{4-4}{4-4}$; grinders 5/6 (*Hodgson*, J. A. S. B. t. 31. f. 6).

Helictis, Gray, Proc. Zool. Soc. ii. 94, 1833; List Mamm. B. M. xxi. 68; Isis, 1834, p. 829.

Melogale, I. Geoff.; Guérin, Mag. Zool. v. 1, t. 16, 1835.

Rhinogale, Gloger, 1842.

Mydaus, sp., Temm. & Müller.

Galictis, Wiegmann.

The external appearance of the species of this genus is very similar, and there appears to be an indication of the differences in colours passing into one another.

The skulls of the species are very distinct. 1. The skull short and ventricose; nose short, thick; the hinder part of the palate flat, with a broad opening, as wide as long on the sides, the front edge arched. *H. orientalis*. 2. Skull elongate; the nose produced, attenuated; the hinder part of the palate concave, and contracted behind the aperture; longer than wide; the front edge arched. *H. moschata* and *H. nipalensis*.

The teeth and size of the aperture in front of the orbits also differ thus in the different species:—1. The flesh-tooth large, with three lobes on the outer edge, the front one small, with two acute tubercles on the broad inner lobes; the aperture in the front of the orbits moderate. *H. orientalis* and *H. nipalensis*. 2. The flesh-tooth small, shaped like those of the other species, but rather more slender; the aperture under the front of the orbits very large. *H. moschata*.

* *Flesh-tooth large; aperture in front of orbits moderate.*
Melogale.

1. HELICTIS ORIENTALIS. Nyentek. B.M.
 Brown, paler beneath; cheeks, upper lip, chin, throat, sides of